

Commonwealth of Virginia  
Department of Medical Assistance Services

## **2015–16 Health and Acute Care Program (HAP) Focused Study**

*October 2016*

## Table of Contents

<b>1. Executive Summary .....</b>	<b>1-1</b>
Methodology and Study Indicators .....	1-1
Findings .....	1-2
Conclusions and Recommendations .....	1-6
<b>2. Overview and Methodology .....</b>	<b>2-1</b>
Introduction .....	2-1
Methodology .....	2-1
Study Indicators .....	2-2
<b>3. Phase I and Phase II Findings .....</b>	<b>3-1</b>
Demographic and Clinical Characteristics .....	3-1
Demographic Characteristics as of December 1, 2014 .....	3-2
Clinical Characteristics.....	3-5
Medical and Long-Term Care Services and Supports Utilization.....	3-9
Dental Utilization .....	3-10
Medical and Long-Term Care Services and Supports Utilization.....	3-11
Pharmacy Utilization .....	3-17
<b>4. Conclusions and Recommendations .....</b>	<b>4-1</b>
Conclusions .....	4-1
Recommendations .....	4-2
<b>Appendix A. Study Indicators .....</b>	<b>A-1</b>
<b>Appendix B. Demographic Characteristics of Study Members .....</b>	<b>B-1</b>
Phase I Demographic Characteristics as of December 1, 2014, by Waiver Program .....	B-1
Phase II Demographic Characteristics as of December 1, 2015, by Waiver Program .....	B-3
<b>Appendix C. Phase I Detailed Findings by Waiver Program .....</b>	<b>C-1</b>
Clinical Indicator Results by HAP Waiver Program.....	C-1
Medical Utilization Indicator Results by HAP Waiver Program .....	C-4
Long-Term Services and Supports Indicator Results by HAP Waiver Program .....	C-8
Pharmacy Utilization Indicator Results by HAP Waiver Program .....	C-9
<b>Appendix D. Phase II Detailed Findings by Waiver Program.....</b>	<b>D-1</b>
Clinical Indicator Results by HAP Waiver Program.....	D-1
Medical Utilization Indicator Results by HAP Waiver Program .....	D-5
Long-Term Services and Supports Indicator Results by HAP Waiver Program .....	D-12
Pharmacy Utilization Indicator Results by HAP Waiver Program .....	D-14

## 1. Executive Summary

As an optional external quality review (EQR) task under the Centers for Medicare & Medicaid Services (CMS) Medicaid Guidelines,<sup>1-1</sup> the Commonwealth of Virginia Department of Medical Assistance Services (DMAS) contracted with Health Services Advisory Group, Inc. (HSAG), to conduct a focused study in fiscal year (FY) 2015–2016 to provide quantitative information about the demographic composition, clinical profile, and medical and pharmaceutical utilization trends among Home and Community-Based Services (HCBS) waiver members enrolled in Medicaid Medallion 3.0 under one of five waiver programs<sup>1-2</sup> unified under the Health and Acute Care Program (HAP) beginning on December 1, 2014.<sup>1-3</sup> The Contract Year (CY) 2015–2016 Task F.3 HAP Focused Study addresses the following question: *To what extent did the managed care members with home- and community-based waivers enrolled in Medallion 3.0 use medical and pharmacy services during the first year of managed care coverage?*

This study examines clinical services received by members in HAP during two measurement periods. The pre-HAP period (analysis Phase I) evaluated services from December 1, 2013, through November 30, 2014, and the post-HAP period (analysis Phase II) evaluated services from December 1, 2014, through November 30, 2015 (i.e., the first full year of statewide managed care for this unified program). Each year (i.e., December 1 through November 30) was considered a distinct measurement period.

### Methodology and Study Indicators

HSAG used Medicaid enrollment files provided by DMAS to identify members enrolled in HAP as of December 1, 2014. Using monthly enrollment files for the 12 months prior to and after December 1, 2014, HSAG assessed continuous enrollment patterns of members in the study population before and after the shift to managed care service delivery. DMAS provided administrative claims and encounter data for each phase of the study, as well as dental encounter data from DentaQuest and behavioral health encounter data from Magellan. HSAG conducted member-level analyses to obtain demographic, clinical, and medical and pharmaceutical utilization information during the Phase I and Phase II measurement periods.

Study indicators were grouped into three domains: demographic, clinical, and utilization; the utilization domain is divided between medical- and pharmacy-related metrics. Metrics within each domain include the following:

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<sup>1-1</sup> Department of Health and Human Services, Centers for Medicare & Medicaid Services. *EQR Protocol 8: Conducting Focused Studies of Health Care Quality: A Voluntary Protocol for External Quality Review (EQR)*. Version 2.0. September 2012. Available at: <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/Quality-of-Care-External-Quality-Review.html>. Accessed on: February 19, 2013.

<sup>1-2</sup> Waiver programs included Elderly or Disabled with Consumer Direction (EDCD), Day Support (Day Sup), Individuals with Intellectual Disability (ID), Individual and Family Developmental Disabilities Support (IFDDS), and Alzheimer's (ALZ).

<sup>1-3</sup> The precursor to HAP began in 2007 with the transition to managed care for members on HCBS waivers.

- **Demographic:** Categorical indicators describe the member’s age, sex, race/ethnicity, region of residence, managed care organization (MCO), and waiver program. A categorical indicator also demonstrates whether or not the member moved between MCOs during the measurement period.
- **Clinical:** Binary indicators demonstrate whether or not the member had a diagnosis of diabetes, coronary artery disease (CAD), or mental health concerns during the measurement period.
- **Medical Utilization:** Categorical indicators note the extent to which the member used ambulatory care, dental, emergency department (ED), or long-term care (LTC) services during the measurement period.
- **Pharmacy Utilization:** Categorical indicators note the extent to which the member used pharmacy services during the measurement period. In addition to overall prescriptions, indicators assess the member’s use of opiates, antibiotics, antipsychotics, and medications for attention deficit disorder/attention deficit hyperactivity disorder (ADD/ADHD).

Comprehensive descriptions of the study indicators are presented in Appendix A. Results for each of the 20 study metrics were calculated for each member in the study population for each measurement period under consideration (i.e., December 1, 2013, through November 30, 2014, for Phase I; and December 1, 2014 through November 30, 2015, for Phase II).

## Findings

As of December 1, 2014, 7,624 members enrolled in Medallion 3.0 managed care with waivers for HCBS were eligible for the newly created HAP program (i.e., HAP members), and 7,341 of these members were included in Phase II analyses. A total of 283 members were excluded from Phase II analyses as a result of death during the study period.<sup>1-4</sup> Table 1-1 displays the number and percentage of study members by waiver program for Phase I and Phase II, as well as the percentage of Phase II members who maintained the same waiver program as they did during Phase I.

**Table 1-1—Distribution of Waiver Program Enrollment for Phase I and Phase II**

HAP Waiver Program	Phase I		Phase II <sup>1</sup>		Percent of Phase II Members With Same Waiver Across Phases <sup>2</sup>
	Number	Percent	Number	Percent	
Day Support	40	0.5	37	0.5	<b>100.0</b>
EDCD	6,779	88.9	5,612	76.4	<b>86.3</b>
ID	755	9.9	742	10.1	<b>92.5</b>
IFDDS	48	0.6	51	0.7	<b>91.7</b>
Alzheimer’s	2	0.0	1	0.0	<b>100.0</b>

<sup>1-4</sup> Twenty-six HAP members had DMAS-confirmed dates of death occurring between December 1, 2013, and November 30, 2014, and 257 HAP members had DMAS-confirmed dates of death occurring between December 1, 2014, and November 30, 2015.

HAP Waiver Program	Phase I		Phase II <sup>1</sup>		Percent of Phase II Members With Same Waiver Across Phases <sup>2</sup>
	Number	Percent	Number	Percent	
No HAP Eligible Waiver	—	—	659	9.0	—
No Medicaid	—	—	239	3.3	—
<b>Total</b>	<b>7,624</b>	<b>100.0</b>	<b>7,341</b>	<b>100.0</b>	<b>87.0</b>

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

<sup>1</sup> Study members who died during Phase I or Phase II are excluded from the Phase II analyses.

<sup>2</sup> The percentage consists of the number of study members with the specified waiver in Phase II who were also identified in Phase I, divided by the total number of Phase II study members enrolled in the specified waiver program.

The distribution of members among the waiver programs was similar during both phases, with the majority of members attributed to the EDCD waiver. Members included in Phase II analyses tended to remain in the same waiver program to which they were enrolled during Phase I, with 87.0 percent of the Phase II members in the same waiver program as identified for Phase I. For example, all 37 study members in the Day Support waiver program during Phase II were in the same waiver program during Phase I, compared to only 86.3 percent of Phase II study members with EDCD waivers having the same waiver during Phase I.

The HAP population was diverse; study members ranged from children to senior citizens, with children comprising more than one-third of the overall study population during each phase. Among the overall study population, gender was equally represented, non-Hispanic blacks constituted the largest racial/ethnic group of study members, and most study members resided in the Central region during both phases. Members' demographic profile differed within individual waiver programs, and demographic distributions by waiver for each measurement period are presented in Appendix B.

Table 1-2 shows the number and percentage of study members in each service delivery configuration during Phase I and Phase II.

**Table 1-2—Distribution of Study Members by MCO Attribution Status for Phase I and Phase II**

Service Delivery Type	Phase I		Phase II	
	Number	Percent	Number	Percent
Never with an MCO	2,500	<b>32.8</b>	—	—
<i>Not enrolled in Medicaid as of December 1, 2013<sup>1</sup></i>	221	<b>2.9</b>	—	—
<i>Enrolled under fee-for-services (FFS) as of December 1, 2013<sup>1,2</sup></i>	2,263	<b>29.7</b>	—	—
<i>Enrolled in limited service delivery as of December 1, 2013<sup>1</sup></i>	16	<b>0.2</b>	—	—
With the same MCO	4,084	<b>53.6</b>	5,851	<b>79.7</b>
With different MCOs	67	<b>0.9</b>	253	<b>3.4</b>
With FFS and the same MCO	932	<b>12.2</b>	508	<b>6.9</b>
With FFS and multiple MCOs	41	<b>0.5</b>	90	<b>1.2</b>

Service Delivery Type	Phase I		Phase II	
	Number	Percent	Number	Percent
Combination of FFS, one or more MCOs, and gap in Medicaid enrollment <sup>3</sup>	—	—	639	8.7
<b>Total</b>	<b>7,624</b>	<b>100.0</b>	<b>7,341</b>	<b>100.0</b>

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

<sup>1</sup> The italicized rows are subcategories of the “Never with an MCO” category.

<sup>2</sup> Members in this group were enrolled in Medicaid under a FFS delivery system as of December 1, 2013. Some members had Medicaid enrollment gaps during the Phase I measurement period.

<sup>3</sup> Members in this group were enrolled in a Medicaid MCO program as of December 1, 2014. Over the remaining 11 months of Phase II, members’ coverage transitioned to the FFS delivery system, and some members had Medicaid enrollment gaps.

During Phase I, most HAP study members were consistently enrolled with the same MCO (53.6 percent). Similarly, during Phase II the majority of study members were consistently enrolled with the same MCO (79.7 percent). Stability in members’ service delivery type (i.e., managed care or FFS) increased from Phase I to Phase II, with a much smaller proportion of study members having gaps in Medicaid coverage, and smaller proportions transitioning between managed care and FFS during each measurement period.

Table 1-3 displays the number and percentage of study members with selected clinical indicators for Phase I and Phase II, as well as the percentage of Phase II members who maintained the same clinical indicator identified during Phase I.

**Table 1-3—Distribution of Study Members With Clinical Indicators for Phase I and II**

Clinical Indicator	Phase I		Phase II		Phase II Members Detected in Both Phases <sup>1</sup>
	Number	Percent	Number	Percent	Percent
Diabetes	1,437	18.8	1,320	18.0	89.3
Coronary Artery Disease	746	9.8	641	8.7	64.1
Mental Health	5,191	68.1	5,021	68.4	86.3
<b>Total Unique Members With a Clinical Indicator<sup>2</sup></b>	<b>5,842</b>	<b>76.6</b>	<b>5,620</b>	<b>76.6</b>	<b>79.9</b>

<sup>1</sup> The percentage consists of the number of study members with disease in Phase II who were also identified in Phase I, divided by the total number of Phase II study members with disease.

<sup>2</sup> Study members may have diagnoses indicating more than one clinical condition.

The number of study members with diabetes, CAD, and mental health diagnoses remained stable from Phase I to Phase II. Disease detection was relatively high across phases for diabetes and mental health diagnoses, while a larger percentage of study members with CAD during Phase II were not detected as having CAD during Phase I. In addition, the proportions of diabetics identified through ambulatory care or pharmacy services increased from Phase I to Phase II, while the proportion identified solely through acute/inpatient care decreased. Members with 12 months of continuous managed care during Phase II had higher rates of cross-phase detection for diabetes, while similar trends were not observed for members with CAD or mental health diagnoses.

Table 1-4 displays the number and percentage of study members utilizing selected medical services during Phase I and Phase II.

**Table 1-4—Distribution of Study Members With Utilization of Medical Services for Phase I and II**

Medical Utilization Service Categories	Phase I		Phase II	
	Number	Percent	Number	Percent
No Services	33	0.4	75	1.0
Ambulatory Care Services	7,263	95.3	6,904	94.0
<i>Ambulatory Care Services With PCP-Type Provider</i>	7,023	92.1	6,635	90.4
Dental Services	2,446	32.1	2,379	32.4
Emergency Department (ED) Services	3,886	51.0	3,530	48.1
Long-Term Care (LTC) Services	7,167	94.0	6,649	90.6

Utilization trends for medical services demonstrated an overall decrease from Phase I to Phase II, and the transition to managed care for HAP members corresponded with decreased utilization rates for ambulatory care, emergency department (ED), and LTC utilization. The decrease in study members using LTC services was notable, as HAP members are required to use at least one LTC service every 30 days while enrolled in the HCBS waiver.

Table 1-5 displays the number and percentage of members for each pharmacy utilization study indicator during Phase I and Phase II.

**Table 1-5—Distribution of Study Members With Utilization of Pharmaceutical Services for Phase I and II**

Pharmacy Utilization Service Categories	Phase I		Phase II	
	Number of Members	Percent of Members	Number of Members	Percent of Members
No Medication	561	7.4	738	10.1
Any Medication	7,063	92.6	6,603	89.9
<i>ADD/ADHD Medications</i>	1,444	18.9	1,341	18.3
<i>Antibiotic Medications</i>	4,337	56.9	3,691	50.3
<i>Antipsychotic Medications</i>	1,611	21.1	1,482	20.2
<i>Opiate Medications</i>	2,617	34.3	2,068	28.2

Overall utilization trends for pharmacy services decreased from Phase I to Phase II, with the most notable decreases observed in the proportions of members receiving antibiotics and opiates. Decreased utilization rates were observed across drug categories in terms of the total number of prescriptions filled, the average number of prescriptions per member, and the members' range of prescriptions received. Additionally, decreases were observed in total prescriptions per member among study members in the top 10 percent of users for Phase I for each drug indicator assessed in the study.



## Conclusions and Recommendations

This study assessed the extent to which HAP members utilized medical and pharmacy services during the first year in which the HAP program transitioned to managed care service delivery. The study design allowed comparison of service utilization prior to and after the transition by assessing utilization trends in the year prior to the December 1, 2014, HAP program transition (i.e., December 1, 2013, through November 30, 2014), and comparing them to utilization trends observed in the year following the transition (i.e., December 1, 2014, through November 30, 2015).

Continuous enrollment in managed care among HAP members increased between Phase I and Phase II. While the proportion of study members with continuous enrollment in one or more MCOs increased across all five waiver programs, study members in the EDCD waiver program with continuous enrollment displayed the greatest increase from Phase I to Phase II, which was potentially due to changes in the enrollment process for the EDCD waiver. Variation in MCO and FFS enrollment was observed both in Phase I and in Phase II. Although all study members were enrolled in an MCO on December 1, 2014, MCO and/or Medicaid enrollment for many study members lapsed during Phase II. With a primary aim of the study being the assessment of medical and pharmacy service utilization after a transition to managed care, it is important to note that many study members did not receive continuous coverage from a single MCO. The lack of stability in continuous coverage could negatively impact the effectiveness of care coordination and disease management gained through managed care, as well as the range of services covered and the utilization of these services.

Study indicators for medical utilization services demonstrated minimal decreases in utilization of ambulatory, dental, ED, and LTC services from Phase I to Phase II. Between Phase I and Phase II, the proportion of study members utilizing medical services decreased, with decreases observed in the overall volume of visits for all members, as well as in the average number of visits by individual study members. Benefits and services covered by the MCOs may have impacted the utilization rate of specific indicators, such as dental services. Dental utilization trends were similar over both measurement phases for members 17 years and younger, and members 20 years and younger are eligible for dental benefits. HAP members 21 years and older, however, are only eligible for coverage of emergency dental services. Utilization of ED services decreased, and this may be attributed to the increase in the number of study members whose ambulatory visits were with a PCP-type provider.

Fewer study members had at least one LTC service during Phase II, and a smaller proportion of study members received at least one LTC service every 30 days in alignment with the LTC service provision standard for members in the HAP waiver program. It is important to note that LTC services are provided outside of managed care coverage, and HAP members' transition to managed care service delivery may not impact members' compliance with HAP standards for LTC service utilization.

Study indicators for pharmacy utilization also demonstrated decreases from Phase I to Phase II for all drugs, but especially for antibiotic and opiate use. The proportion of members with prescriptions decreased between the measurement periods, as well as the total volume of prescriptions for each indicator. This finding could be indicative of the impact of care coordination under managed care, but it may also be impacted by individual MCOs' pharmacy formularies.



Beginning July 1, 2017, members with HAP-based waivers will be included in the transition, by region, to DMAS' Managed Long Term Services and Supports (MLTSS) program. Consequently, recommendations are framed to address analytic insights gained from the HAP population's initial transition to managed care that can be continued with the transition to the MLTSS program. Based on the findings outlined in this report, HSAG recommends the following:

- DMAS should continue to monitor, trend, and evaluate study indicator rates among the HAP waiver population as members are transitioned into the MLTSS program. Specifically, continued analysis of the medical and pharmacy utilization rates will enrich the longitudinal understanding of the needs of the HAP waiver population and the effectiveness of the program.
  - While the identification of those individuals with mental health issues remained stable over both phases, identification of those beneficiaries with diabetes or CAD was not consistent between Phase I, and Phase II when, as of December 1, 2014, these beneficiaries were enrolled with an MCO. To ensure continuity of care among HAP members with chronic health conditions (and in the future, all subpopulations integrated into the MLTSS program), MCOs should establish additional monitoring to identify HAP members with chronic conditions, as well as collect and assess data on the utilization rates of preventive care services, participation in care coordination, and health outcomes.
- As appropriate, ambulatory care may reduce the need for inpatient hospitalizations and emergency care. Understanding which clinical conditions were most frequently associated with inpatient admissions and outpatient services for the study population would allow DMAS to more thoroughly assess the impact of managed care on preventable hospitalizations.
  - DMAS should consider assessing the nature of members' ED visits using New York University's Center for Health and Public Service Research algorithm for classifying ED visits based on the degree to which visits required emergent care.<sup>1-5</sup>
  - Similarly, DMAS should expand monitoring of ambulatory care-sensitive conditions among HAP members, including hypertension and asthma, to ensure that the transition of this population to managed care under the MLTSS program increases utilization of preventive care and/or disease management services, thereby reducing unnecessary hospital admissions and preventable ED visits.
  - Further investigation into drug utilization patterns for study members with chronic illnesses was outside the scope of this study, and DMAS should consider conducting such analyses to gain further insight into the impact of managed care on pharmacy utilization.
- With more than one year of continuous managed care enrollment for some HAP members, DMAS should conduct longitudinal analyses of member satisfaction as those HAP members are transitioned into the MLTSS program. In combination with the recommended program monitoring analyses to assess HAP members' service utilization, a survey would provide a comprehensive picture of HAP members' satisfaction with their experience of care.

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<sup>1-5</sup> NYU Wagner. Available at: <http://wagner.nyu.edu/faculty/billings/nyued-background>. Accessed on: August 3, 2016.

- DMAS should work with the MCOs to catalog MCOs' existing and planned care coordination and/or case management efforts for HAP members, as well as any evaluations designed to monitor these programs with the transition of applicable members into the MLTSS program. DMAS may use the member-level study results (i.e., the analytic dataset) produced as a complement to this report to identify specific subpopulations for targeted quality improvement activities.

## 2. Overview and Methodology

### Introduction

In fiscal year (FY) 2015–2016, the Commonwealth of Virginia Department of Medical Assistance Services (DMAS) contracted with Health Services Advisory Group, Inc. (HSAG), to conduct a focused study to provide quantitative information about the clinical profile of members in the Health and Acute Care Program (HAP). The precursor to HAP began in 2007 with the transition to managed care for members on Home and Community-Based Services (HCBS) waivers. Beginning on December 1, 2014, HCBS waiver members enrolled in Medicaid Medallion 3.0 managed care under one of five waiver programs<sup>2-1</sup> were unified under the umbrella of HAP.

The Contract Year (CY) 2015–2016 Task F.3 HAP Focused Study addresses the question: *To what extent did the managed care members with home- and community-based waivers enrolled in Medallion 3.0 use medical and pharmacy services during the first year of managed care coverage?*

This study examines clinical services received by members in HAP during two measurement periods. The pre-HAP period (analysis Phase I) evaluated services from December 1, 2013, through November 30, 2014, and the post-HAP period (analysis Phase II) evaluated services from December 1, 2014, through November 30, 2015 (i.e., the first full year of statewide managed care for this program). Each year (i.e., December 1 through November 30) was considered a distinct measurement period.

This report describes the focused study design, presents analytic results from the Phase I and Phase II measurement periods, and compares results of the two measurement periods to draw conclusions regarding HAP members' clinical profile and health care utilization. Study indicator results were aggregated statewide (i.e., at the level of HAP) and by individual waiver program. This report builds on the Phase I data brief submitted to DMAS in February 2016, and adds presentation and discussion of the Phase II analyses, comparing the aggregated HAP and program-level results across the measurement periods.

### Methodology

The eligible population consists of all managed care members with an HCBS waiver as of December 1, 2014. DMAS provided HSAG with a monthly enrollment file for each month of the study periods (from December 2013 through December 2015), extracted on the first day of the month. The December 2015 monthly enrollment file was included in the assessment to gather all relevant November 2015

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<sup>2-1</sup> The following waiver programs are included in HAP: Elderly or Disabled with Consumer Direction (EDCD), Day Support (Day Sup), Individuals with Intellectual Disability (ID), Individual and Family Developmental Disabilities Support (IFDDS), and Alzheimer's (ALZ).

information, as these files are generated on the first day of each month. HAP members were identified within the monthly enrollment file as having a value of “HAP” in the WAIVER data field.<sup>2-2</sup>

HSAG conducted member-level study analyses using administrative claims and encounter data supplied by DMAS, including dental and behavioral health encounters. To aid in the exploratory nature of this study, HSAG established an analytic dataset containing a member-level profile of members’ demographic, clinical, and utilization characteristics for the Phase I time period (i.e., December 1, 2013, through November 30, 2014). An equivalent analytic dataset was established for all surviving Phase I members for the Phase II measurement period (i.e., December 1, 2014, through November 30, 2015).

## Study Indicators

Study metrics are grouped into three domains: demographic, clinical, and utilization; the utilization domain includes both medical and pharmacy-related metrics. Metrics within each domain include the following:

- **Demographic:** Categorical indicators note the member’s age, sex, race/ethnicity, region of residence, managed care organization (MCO), and waiver program. A categorical indicator also demonstrates whether or not the member moved between MCOs during the measurement period.
- **Clinical:** Binary indicators demonstrate whether or not the member had a diagnosis of diabetes, coronary artery disease (CAD), or mental health concerns during the measurement period.
- **Medical Utilization:** Categorical indicators note the extent to which the member used ambulatory care, dental, emergency department (ED), or long-term care (LTC) services during the measurement period.
- **Pharmacy Utilization:** Categorical indicators note the extent to which the member used pharmacy services during the measurement period. In addition to overall prescriptions, indicators assess the member’s use of opiates, antibiotics, antipsychotics, and medications for attention deficit disorder/attention deficit hyperactivity disorder (ADD/ADHD).

Comprehensive descriptions of the study indicators are presented in Appendix A. Results for each of the 20 study metrics were calculated for each member in the study population for the measurement periods under consideration (i.e., December 1, 2013, through November 30, 2014, for Phase I; and December 1, 2014, through November 30, 2015, for Phase II).

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<sup>2-2</sup> Monthly enrollment information was identified from the processed “Flash Report” files, rather than raw enrollment data.

### 3. Phase I and Phase II Findings

Of the 7,624 HAP study members identified through participation in one of five HCBS waivers on December 1, 2014, 7,341 members remained enrolled in a waiver program through to Phase II of the study. Twenty-six study members died in Phase I, and 257 study members died in Phase II. Those study members who passed away during the study period (n=283) were excluded from the study population for Phase II.

Table 3-1 shows the number and percentage of HAP study members by waiver program at the end of both Phase I and Phase II.

**Table 3-1—Distribution of Study Members by HAP Waiver Program**

HAP Waiver Program	As of December 1, 2014		As of December 1, 2015	
	Number	Percent	Number	Percent
Elderly or Disabled with Consumer Direction (EDCD)	6,779	88.9	5,612	76.4
Individuals with Intellectual Disability (ID)	755	9.9	742	10.1
Individual and Family Developmental Disabilities Support (IFDDS)	48	0.6	51	0.7
Day Support	40	0.5	37	0.5
Alzheimer's	2	0.0	1	0.0
No HAP Eligible Waiver	—	—	659	9.0
No Medicaid	—	—	239	3.3
<b>Total</b>	<b>7,624</b>	<b>100.0</b>	<b>7,341</b>	<b>100.0</b>

Note: Due to rounding, the sum of the percentages may not equal 100 percent.

During Phase I, most HAP members were eligible under the Elderly or Disabled with Consumer Direction (EDCD) waiver (88.9 percent, n=6,779). This trend continued in the second phase of the study; however, the proportion of HAP members eligible under the EDCCD waiver decreased to 76.4 percent, or 5,612 members. While all study members were enrolled in managed care at the start of Phase II, 9.0 percent (n=659) of the study population were no longer enrolled in one of the HAP waiver programs, and 3.3 percent (n=239) of the study population were no longer eligible for Medicaid at the conclusion of Phase II.

## Demographic and Clinical Characteristics

This section contains key findings from Phase I and II regarding study members' demographic and clinical characteristics. Detailed results by waiver program and study phase are available in Appendices C and D.

## Demographic Characteristics as of December 1, 2014

Children ages 17 years and younger comprised over one-third of study members (36.8 percent, n=2,809 during Phase I; 38.1 percent, n=2,794 during Phase II), though the age distribution of study members varied by waiver. Table 3-2 shows the number and percentage of study members by age category and waiver program as of December 1, 2014 (i.e., the effective date used to identify HAP members eligible for this study), and December 1, 2015.

**Table 3-2—Distribution of Study Members by Age Category and HAP Waiver Program**

HAP Waiver Program	Age Category								Total	
	17 Years and Younger		18–34 Years		35–64 Years		65 Years and Older			
	n	%	n	%	n	%	n	%	n	%
As of December 1, 2014										
EDCD	2,625	93.4	1,008	63.6	2,547	97.1	599	98.7	6,779	88.9
ID	160	5.7	516	32.6	72	2.7	7	1.2	755	9.9
IFDDS	20	0.7	27	1.7	1	0.0	0	0.0	48	0.6
Day Support	4	0.1	33	2.1	3	0.1	0	0.0	40	0.5
Alzheimer’s	0	0.0	0	0.0	1	0.0	1	0.2	2	0.0
Total	2,809	100.0	1,584	100.0	2,624	100.0	607	100.0	7,624	100.0
As of December 1, 2015										
EDCD	2,208	82.5	903	55.2	1,988	83.0	513	80.9	5,612	76.4
ID	163	6.1	494	30.2	75	3.1	10	1.6	742	10.1
IFDDS	19	0.7	29	1.8	3	0.1	0	0.0	51	0.7
Day Support	4	0.1	27	1.7	6	0.3	0	0.0	37	0.5
Alzheimer’s	0	0.0	0	0.0	0	0.0	1	0.2	1	0.0
No Waiver	192	7.2	139	8.5	236	9.8	92	14.5	659	9.0
No Medicaid	89	3.3	44	2.7	88	3.7	18	2.8	239	3.3
Total	2,675	100.0	1,636	100.0	2,396	100.0	634	100.0	7,341	100.0

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

In addition to the diversity observed across age groups within the study population, study members were also diverse in regard to gender, race, and area of residence. Demographic details for the study population are presented in Appendix B.

- HAP members were evenly divided between males and females during Phase I (49.4 percent male, n=3,769; 50.6 percent female, n=3,855) as well as Phase II (50.1 percent female, n=3,681; 49.9 percent male, n=3,660), but distribution by members' sex varied by waiver program.
- The greatest percentage of study members were non-Hispanic blacks (41.5 percent, n=3,165 during Phase I; 35.9 percent, n=2,635 during Phase II). However, non-Hispanic whites represented the greatest percentage of study members in each waiver program except EDCD.

- During Phase 1, the greatest percentage of study members resided in the Central managed care region as of December 1, 2014 (27.0 percent, n=2,060), and the smallest percentage of study members resided in the Far Southwest managed care region (4.2 percent, n=318). This trend continued through Phase II, with 26.5 percent (n=1,942) of study members living in the Central region, and 4.0 percent (n=290) living in the Far Southwest managed care region.

Each study member was enrolled with one of six MCOs on December 1, 2014, although some members were enrolled with an MCO prior to this date. While specific MCOs enrolled higher proportions of study members than others, all six MCOs has relatively similar proportions of members by waiver category. Table 3-3 shows the percentage of study members by waiver program and MCO for each measurement period; additional details by study phase are available in Appendices C and D.

**Table 3-3—Distribution of Study Members by MCO and HAP Waiver Program<sup>3-1</sup>**

HAP Waiver Program	Managed Care Organization (MCO)						No MCO	Total	
	Anthem	Coventry	INTotal	Kaiser	Optima	VA Premier			
	%	%	%	%	%	%	%	n	%
<b>As of December 1, 2014</b>									
EDCD	89.5	88.9	90.8	100.0	88.6	87.6	—	6,779	88.9
ID	9.7	9.7	8.6	0.0	10.1	10.7	—	755	9.9
IFDDS	0.5	1.1	0.0	0.0	0.5	1.0	—	48	0.6
Day Support	0.3	0.3	0.6	0.0	0.8	0.6	—	40	0.5
Alzheimer's	0.0	0.0	0.0	0.0	0.0	0.1	—	2	0.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	—	<b>7,624</b>	<b>100.0</b>
<b>As of November 30, 2015</b>									
EDCD	87.0	85.4	88.6	100.0	85.7	84.4	0.0	5,612	76.4
ID	10.9	12.2	9.8	0.0	11.9	12.1	0.0	742	10.1
IFDDS	0.5	1.4	0.0	0.0	0.8	1.3	0.0	51	0.7
Day Support	0.4	0.3	0.8	0.0	0.8	0.6	0.0	37	0.5
Alzheimer's	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1	0.0
No Waiver	1.2	0.7	0.8	0.0	0.9	1.5	26.0	659	9.0
No Medicaid	0.0	0.0	0.0	0.0	0.0	0.0	74.0	239	3.3
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>7,341</b>	<b>100.0</b>

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

<sup>3-1</sup> The full and abbreviated names of the MCOs that appear in this report are as follows: Anthem HealthKeepers Plus (Anthem); CoventryCares of Virginia (Coventry); INTotal Health (INTotal); Kaiser Permanente (Kaiser); Optima Family Care (Optima); and Virginia Premier Health Plan, Inc. (VA Premier). As of April 1, 2016, CoventryCares of Virginia changed its name to Aetna Better Health of Virginia. This health plan was known as CoventryCares of Virginia during the measurement period for the study (i.e., December 1, 2013, to November 30, 2015).



During Phase I and Phase II, MCOs had relatively similar proportions of study members by waiver category, but only VA Premier served members from all five waiver programs. Kaiser served study members in the EDCD waiver program across measurement periods. By November 30, 2015 (the end of Phase II), 659 members (9.0 percent) were no longer enrolled with an MCO, and 239 members (3.3 percent) were no longer enrolled in Medicaid.

In the year prior to the initiation of the HAP program, slightly over half of the study population (n=4,151, 54.5 percent) were enrolled in managed care with one or more MCOs. Approximately 45.5 percent of study members had less stability in the Medicaid delivery system providing their benefits, with months of FFS coverage or gaps in Medicaid coverage. Study members' service delivery type was assessed by examining MCO and FFS enrollment or Medicaid coverage gaps over the 12-month period prior to December 1, 2014 (i.e., Phase I). (See Table 3-4 below).

**Table 3-4—Distribution of Study Members by MCO Attribution Category and HAP Waiver Program**

Service Delivery Type During Phase I	HAP Waiver Program as of December 1, 2014										Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's			
	n	%	n	%	n	%	n	%	n	%	n	%
Never with an MCO	0	0.0	2,499	36.9	1	0.1	0	0.0	0	0.0	2,500	32.8
<i>Not enrolled in Medicaid as of December 1, 2013<sup>1</sup></i>	0	0.0	221	3.3	0	0.0	0	0.0	0	0.0	221	2.9
<i>Enrolled under FFS as of December 1, 2013<sup>1,2</sup></i>	0	0.0	2,262	33.4	1	0.1	0	0.0	0	0.0	2,263	29.7
<i>Enrolled in limited service delivery as of December 1, 2013<sup>1</sup></i>	0	0.0	16	0.2	0	0.0	0	0.0	0	0.0	16	0.2
With the same MCO	36	90.0	3,353	49.5	653	86.5	41	85.4	1	50.0	4,084	53.6
With different MCOs	0	0.0	59	0.9	8	1.1	0	0.0	0	0.0	67	0.9
With FFS and the same MCO	4	10.0	835	12.3	85	11.3	7	14.6	1	50.0	932	12.2
With FFS and multiple MCOs	0	0.0	33	0.5	8	1.1	0	0.0	0	0.0	41	0.5
Total	40	100.0	6,779	100.0	755	100.0	48	100.0	2	100.0	7,624	100.0

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

<sup>1</sup> The italicized rows are subcategories of the "Never with an MCO" category.

<sup>2</sup> Members in this group were enrolled in Medicaid under a FFS delivery system as of December 1, 2013. Some members had Medicaid enrollment gaps during the Phase I measurement period.

Just under one-third (32.8 percent, n=2,500) of study members were not enrolled with an MCO during Phase I. Nearly all of these members (90.5 percent, n=2,263) were enrolled in FFS, while the remaining 10 percent had limited Medicaid coverage (0.6 percent, n=16) or were not covered by Virginia Medicaid prior to December 1, 2014 (8.8 percent, n=221). Among the study members enrolled with an MCO during Phase I, only 2.1 percent (n=108) changed MCOs during the Phase I measurement period.

In the year following the initiation of the HAP program, the majority of study members remained enrolled in managed care (with one or more MCOs), and although smaller proportions of study members had changes in service delivery system, a notable proportion of members had gaps in coverage. Table 3-5 shows the number and percentage of study members by service delivery type, stratified by waiver program.

**Table 3-5—Distribution of Study Members by MCO Attribution Category and HAP Waiver Program**

Service Delivery Type During Phase II	HAP Waiver Program as of December 1, 2015												No Medicaid		Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's		No Waiver					
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Single MCO	35	94.6	5,036	89.7	699	94.2	51	100.0	1	100.0	29	4.4	0	0.0	5,851	79.7
Multiple MCOs	1	2.7	225	4.0	11	1.5	0	0.0	0	0.0	16	2.4	0	0.0	253	3.4
Single MCO + one or more FFS months	0	0.0	54	1.0	7	0.9	0	0.0	0	0.0	447	67.8	0	0.0	508	6.9
Multiple MCOs + one or more FFS months	0	0.0	12	0.2	1	0.1	0	0.0	0	0.0	77	11.7	0	0.0	90	1.2
Combination of FFS, one or more MCOs, and gap in Medicaid Enrollment <sup>1</sup>	1	2.7	285	5.1	24	3.2	0	0.0	0	0.0	90	13.7	239	100.0	639	8.7
Total	37	100.0	5,612	100.0	742	100.0	51	100.0	1	100.0	659	100.0	239	100.0	7,341	100.0

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

<sup>1</sup> Members in this group were enrolled in Medicaid under a FFS delivery system, in an MCO, and had gaps in their coverage during one or more months of Phase II.

Throughout Phase II, most study members stayed with their MCO (79.7 percent, n=5,851), while a small proportion of members changed MCOs but maintained continuous enrollment during the 12-month study period (3.4 percent, n=253). However, 6.9 percent (n=508) of study members were enrolled in FFS for at least one month and subsequently enrolled with a single MCO for the remainder of Phase II, and 1.2 percent (n=90) were enrolled in FFS for at least one month and enrolled with several MCOs for the remainder of Phase II. Additionally, 8.7 percent of members (n=639) had a mixture of the following during Phase II: at least one month of FFS coverage or another non-FFS Medicaid delivery system (including the Limited Program, Commonwealth Coordinated Care [CCC] Program, and Program of All-Inclusive Care for the Elderly [PACE]); managed care coverage by one or more MCOs; and at least one month of no Medicaid coverage.

### Clinical Characteristics

The three clinical study indicators assessed whether or not members had a diagnosis of diabetes or CAD, or mental health concerns during both Phase I and Phase II of the study. While relatively high prevalence rates of disease were observed across phases of the study, no increase in disease diagnosis

was observed. Table 3-6 shows the number and percentage of study members diagnosed with clinical indicators by HAP waiver program. More detailed demographic information of study members with clinical disease is listed in Appendix C for Phase I, and Appendix D for Phase II.

**Table 3-6—Distribution of Study Members by Number of Clinical Indicators**

Number of Clinical Study Indicators	HAP Waiver Program												No Medicaid		Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's		No Waiver					
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
As of December 1, 2014																
No indicators	22	55.0	1,595	23.5	158	20.9	7	14.6	0	0.0	—	—	—	—	1,782	23.4
One indicator	18	45.0	3,996	59.0	549	72.7	37	77.1	1	50.0	—	—	—	—	4,601	60.3
More than one indicator	0	0.0	1,188	17.5	48	6.4	4	8.3	1	50.0	—	—	—	—	1,241	16.3
Total	40	100.0	6,779	100.0	755	100.0	48	100.0	2	100.0	—	—	—	—	7,624	100.0
As of December 1, 2015																
No indicators	22	59.5	1,260	22.5	156	21.0	9	17.6	0	0.0	167	25.3	107	44.8	1,721	23.4
One indicator	15	40.5	3,411	60.8	542	73.0	38	74.5	1	100.0	376	57.1	112	46.9	4,495	61.2
More than one indicator	0	0.0	941	16.8	44	5.9	4	7.8	0	0.0	116	17.6	20	8.4	1,125	15.3
Total	37	100.0	5,612	100.0	742	100.0	51	100.0	1	100.0	659	100.0	239	100.0	7,341	100.0

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

The proportion of study members with clinical disease remained relatively stable, with approximately one-quarter of study members identified as having none of the clinical study indicators in Phase I and Phase II (23.4 percent each), and over 60.0 percent of study members having one indicator during both measurement periods (60.3 percent and 61.2 percent, respectively).

As previously stated, the prevalence of diagnosed disease remained stable for all three clinical indicators during both measurement periods. However, within individual waiver programs, the proportion of study members with specific diagnoses changed. This change was anticipated due to member deaths, and some members transitioning from the EDCD waiver to another waiver program or another Medicaid delivery system. Table 3-7 shows the number and percentage of study members by HAP waiver program and clinical study indicator, for each measurement period.

**Table 3-7—Distribution of Study Members by Clinical Indicators**

Clinical Study Indicators	HAP Waiver Program												No Medicaid		Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's		No Waiver					
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Diabetes																
Phase I	1	2.5	1,377	20.3	55	7.3	3	6.3	1	50.0	0	0.0	0	0.0	1,437	18.8
Phase II	0	0.0	1,108	19.7	52	7.0	3	5.9	1	100.0	127	19.3	29	12.1	1,320	18.0

Clinical Study Indicators	HAP Waiver Program												No Medicaid		Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's		No Waiver					
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Coronary Artery Disease																
Phase I	0	0.0	733	10.8	11	1.5	1	2.1	1	50.0	0	0.0	0	0.0	746	9.8
Phase II	0	0.0	548	9.8	7	0.9	1	2.0	0	0.0	73	11.1	12	5.0	641	8.7
Mental Health																
Phase I	17	42.5	4,550	67.1	582	77.1	41	85.4	1	50.0	0	0.0	0	0.0	5,191	68.1
Phase II	15	40.5	3,838	68.4	573	77.2	42	82.4	0	0.0	438	66.5	115	48.1	5,021	68.4

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

Notable differences in disease diagnoses by HAP waiver program were observed among study members with no waiver during Phase II, who accounted for 9.6 percent of diabetes, 11.4 percent of members with CAD, and 8.7 percent of members with a mental health diagnosis. Smaller proportions of study members with clinical diagnoses did not have Medicaid coverage at the conclusion of Phase II.

When changes to study members' service delivery systems were examined, disease diagnosis trends across measurement periods varied. Overall, study members continuously enrolled in one or more MCOs during Phase II were more likely to have been diagnosed during Phase I and Phase II for diabetes only. Dual phase diagnosis of the clinical indicators by service delivery type during Phase II is displayed in Table 3-8.

**Table 3-8—Distribution of Study Members With Clinical Indicator Detection in Phases I & II by MCO Attribution Category**

Service Delivery Type During Phase II	Diabetes		Coronary Artery Disease		Mental Health Diagnosis	
	Number*	% Detected in Both Phases	Number*	% Detected in Both Phases	Number*	% Detected in Both Phases
Single MCO	1,039	92.4	482	66.4	4,005	87.5
Multiple MCOs	39	89.7	20	50.0	177	88.7
Single MCO + one or more FFS Months	116	82.8	77	67.5	334	88.6
Multiple MCOs + one or more FFS months	24	79.2	15	46.7	53	79.2
Combination of FFS, one or more MCOs, and gap in Medicaid enrollment <sup>1</sup>	93	74.2	45	48.9	420	80.2
<b>Total</b>	<b>1,311</b>	<b>89.9</b>	<b>639</b>	<b>64.3</b>	<b>4,989</b>	<b>86.9</b>

\* The total number includes HAP study members identified as having the specified clinical indicator in Phase I who remained in the Phase II study population (were not removed due to death).

<sup>1</sup> Members in this group were enrolled in Medicaid under a FFS delivery system, in one or more MCOs, and had gaps in their coverage during one or more months of Phase II.

While the raw number of study members identified as having one of the clinical indicators decreased for all indicators from Phase I to Phase II, the proportions did not consistently decrease over the two phases. To contextualize part of this decrease, it is also important to note that many of the 283 HAP study members removed from analysis due to death during Phase I or II had one or more of the clinical indicators during Phase I. To better assess the impact of deceased members on the rates of members with clinical conditions, supplemental analyses identified the following findings:

- The proportion of the study population identified as having diabetes decreased from 18.8 percent (n=1,437) in Phase I to 18.0 percent (n=1,320) in Phase II.
  - 126 Phase I diabetics (8.8 percent) were removed from Phase II analyses due to death.
  - Of the 1,320 study members with diabetes identified in Phase II, 89.3 percent (n=1,179) were previously identified in Phase I, while 10.7 percent (n=141) were newly identified in Phase II.
  - 10.1 percent (n=132) of Phase I diabetics were not identified through diabetes-related claims/encounters during Phase II.
- The proportion of the study population identified as having coronary artery disease decreased from 9.8 (n=746) in Phase I to 8.7 percent (n=641) in Phase II.
  - 107 Phase I study members with CAD (14.3 percent) were removed from Phase II analyses due to death.
  - Of the 641 study members with CAD in Phase II, 64.1 percent (n=411) were previously identified in Phase I, while 35.9 percent (n=230) were newly identified in Phase II.
  - 35.7 percent (n=228) of Phase I study members with CAD were not identified through medical services received during Phase II.
- The proportion of the study population identified as having mental health concerns increased from 68.1 percent (n=5,191) in Phase I to 68.4 percent (n=5,021) in Phase II.
  - 202 study members identified as having a mental health diagnosis in Phase I (3.9 percent) were excluded from Phase II analyses due to death.
  - Of the 5,021 study members with a mental health diagnosis in Phase II, 86.3 percent (n=4,335) were previously identified in Phase I, while 13.7 percent (n=686) were newly identified in Phase II.
  - 13.1 percent (n=654) of Phase I study members with a mental health diagnosis were not identified through services rendered in Phase II.

Claims or encounters for prescriptions, professional visits, outpatient visits, and inpatient visits were used to identify study members with diabetes, and the criteria for the diabetes study indicator could be met through a combination of these types of services.<sup>3-2</sup> Using the measure specifications for the diabetes measure, the following findings were noted regarding the types of care accessed by study members with diabetes:

- Roughly equal numbers of study members were identified as having diabetes in Phase I (1,437 members) and Phase II (1,320 members). However, the distribution of services received by these members varied across dimensions of care.

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<sup>3-2</sup> See Appendix A for a complete list of study indicator criteria.

- Two-thirds (66.3 percent) of the Phase I study members were identified as diabetic using pharmaceutical claims/encounters versus 61.5 percent in Phase II.
- During Phase I, 94.0 percent of the study members with diabetes were identified using professional claims/encounters with a diagnosis of diabetes, and fewer members were identified this way during Phase II (92.0 percent).
- During Phase II, just over one-third of diabetic study members identified through professional claims and encounters (37.1 percent, n=451) also had an inpatient admission for diabetes, compared to 46.8 percent during Phase I.
- During Phase I, 63.1 percent of study members with diabetes were identified in both pharmacy claims/encounters and professional and/or inpatient claims and encounters compared to 55.2 percent of study members (n=729) during Phase II. A small subset of this group were identified in inpatient claims/encounters as well (22.7 percent of all members with diabetes, n=299).
- A small number of diabetic study members (3.2 percent, n=46) were identified solely from prescriptions during Phase I, and this number increased during Phase II (5.9 percent, n=78). While these members may not have received professional services during Phase I (e.g., HbA1c or cholesterol monitoring), their claims and encounters for prescription medications to treat diabetes indicated a level of ongoing care for diabetes.
- Of the Phase I diabetic study members with inpatient admissions with a diabetes diagnosis (n=478), 94.4 percent also had an ambulatory (outpatient or professional) encounter, and 63.6 percent had a prescription for at least one diabetes drug, indicating that these members may have had some degree of disease management with health professionals despite an acute incident.
- During Phase II, very few diabetic study members were identified through acute care alone (1.7 percent, n=22). Members having at least two professional visits with a diagnosis of diabetes were mostly taking diabetes-related medications (89.8 percent, n=729). Additionally, the majority of members with acute care visits related to diabetes had at least two ambulatory care visits related to their disease (94.4 percent, n=451). This indicates that the majority of diabetic study members may have had some level of disease management with health professionals during Phase II.

## Medical and Long-Term Care Services and Supports Utilization

Five medical and long-term care services/supports utilization indicators assessed whether or not study members received specific types of health services, as well as the volume of services during the Phase I measurement period. The services assessed included the following:

- Ambulatory Care Visits
- Ambulatory Care Visits with a Primary Care Provider (PCP)-type Provider
- Dental Visits
- Emergency Department (ED) Visits
- Long-Term Care (LTC) Services



Overall, study members' medical utilization varied by type of service. While nearly all study members had at least one ambulatory care visit (95.3 percent, n=7,263 during Phase I; and 94.0 percent, n=6,904 during Phase II), less than one-third of members had a dental visit (32.1 percent, n=2,446 during Phase I; and 32.4 percent, n=2,379 during Phase II). Detailed Phase I medical utilization results by waiver program for each study indicator are presented in Appendix C, and Phase II results are presented in Appendix D.

## Dental Utilization

The dental utilization trends during Phase II matched those trends in Phase I. Both routine dental services (e.g., preventive care exams and x-rays) and emergency dental services are covered for HAP members 20 years and younger, while dental benefits are limited to emergency dental services for adult HAP members 21 years and older. As a result, most dental visits among the HAP population were by members ages 17 years and younger (72.8 percent, n=1,732), similar to Phase I. Table 3-9 shows the number and percentage of HAP study members receiving dental services by age category and measurement period.

**Table 3-9—Distribution of Members With Dental Visits by Age**

Age Category	As of December 1, 2014		As of November 30, 2015	
	Number of Members	% of Members Receiving Dental Services	Number of Members	% of Members Receiving Dental Services
17 Years and Younger	1,723	70.4	1,668	70.1
18 Through 34 Years	368	15.0	386	16.2
35 Through 64 Years	316	12.9	281	11.8
65 Years and Older	39	1.6	44	1.8
<b>Members With Dental Visits</b>	<b>2,446</b>	<b>100.0</b>	<b>2,379</b>	<b>100.0</b>

Note: Due to rounding, the sum of the percentages may not equal 100 percent.

The decrease in dental service utilization from Phase I to Phase II can be partially attributed to HAP members excluded from Phase II analyses due to death.

- Of the 283 study members who died during Phase I or II, 29.3 percent (n=83) utilized dental services during Phase I. These members represented 3.4 percent of all members receiving dental services during Phase I.
- Of the 2,420 study members with Phase I dental service utilization who were included in Phase II analyses, 69.7 percent (n=1,686) received dental services during Phase II.
- When assessing the impact of MCO enrollment stability in Phase II for study members who utilized dental services during Phase I, larger proportions of study members received services in Phase II when they were enrolled in one or more MCOs over the entire 12-month period compared to those with at least one FFS month or with gaps in Medicaid coverage.



## Medical and Long-Term Care Services and Supports Utilization

Although 33 members had no medical utilization visits during the Phase I measurement period (approximately 0.4 percent of the study population), 49.1 percent of study members had at least one visit in three of the four distinct utilization categories.<sup>3-3</sup> When assessing medical utilization by waiver program, study members in almost all waiver programs had high utilization for at least one study indicator.<sup>3-4</sup>

Most HAP study members used medical services during Phase II. However, 75 study members (1.0 percent of the study population) did not utilize any medical services during Phase II, up from 0.4 percent of the study population who did not utilize services during Phase I (n=33). Additionally, while 14.3 percent of study members utilized services in all five categories (including dental services) during Phase I (n=1,090), only 13.2 percent (n=970) of study members utilized services from all categories during Phase II.

Table 3-10 shows the number and percentage of members with at least one medical utilization visit/service by category, as well as descriptive statistics for the number of visits/service days administered by category. The final column displays the proportion of members in each study indicator with at least 12 visits or LTC service days (i.e., an average of at least one visit or service day per month during Phase I).

**Table 3-10—Medical Utilization Results by Study Indicator**

Medical Utilization Study Indicator	Number	Percent	Number of Visits/Service Days			
			Median	Minimum	Maximum	% of Members With ≥12 Visits/Service Days
Phase I Service Utilization						
No Medical/LTC Services Utilization <sup>1</sup>	33	0.4	NA	NA	NA	NA
Ambulatory Care Visits	7,263	95.3	9	1	126	38.8
<i>Visits With a PCP-type Provider</i> <sup>2</sup>	7,023	92.1	5	1	71	18.6
ED Visits	3,886	51.0	4	1	169	11.6
LTC Service Days	7,167	94.0	50	1	365	63.7

<sup>3-3</sup> Members with an ambulatory visit with a PCP-type provider are considered a subset of all study members with at least one ambulatory visit.

<sup>3-4</sup> Medical utilization results presented in this section reflect the study indicator criteria described in the *SFY 2016 Health and Acute Program Focused Study Methodology*. Exploratory analyses during calculation of the *Ambulatory Care Visits*, *Ambulatory Care Visits with a PCP-Type Provider*, and *ED Visits* indicators determined that visits for some members may be billed once as a professional claim/encounter and once as an outpatient claim/encounter. Because different billing providers are reported on the claims/encounters, the visit may be counted as two distinct services under the study methodology, resulting in a higher number of unique visits per member.

Medical Utilization Study Indicator	Number	Percent	Number of Visits/Service Days			
			Median	Minimum	Maximum	% of Members With ≥12 Visits/Service Days
Phase II Service Utilization						
No Medical/LTC Services Utilization <sup>1</sup>	75	1.0	NA	NA	NA	NA
Ambulatory Care Visits	6,904	94.0	8	1	110	32.8
Visits With a PCP-type Provider <sup>2</sup>	6,635	90.4	5	1	66	14.6
ED Visits	3,530	48.1	3	1	253	5.0
LTC Service Days	6,649	90.6	47	1	365	60.3

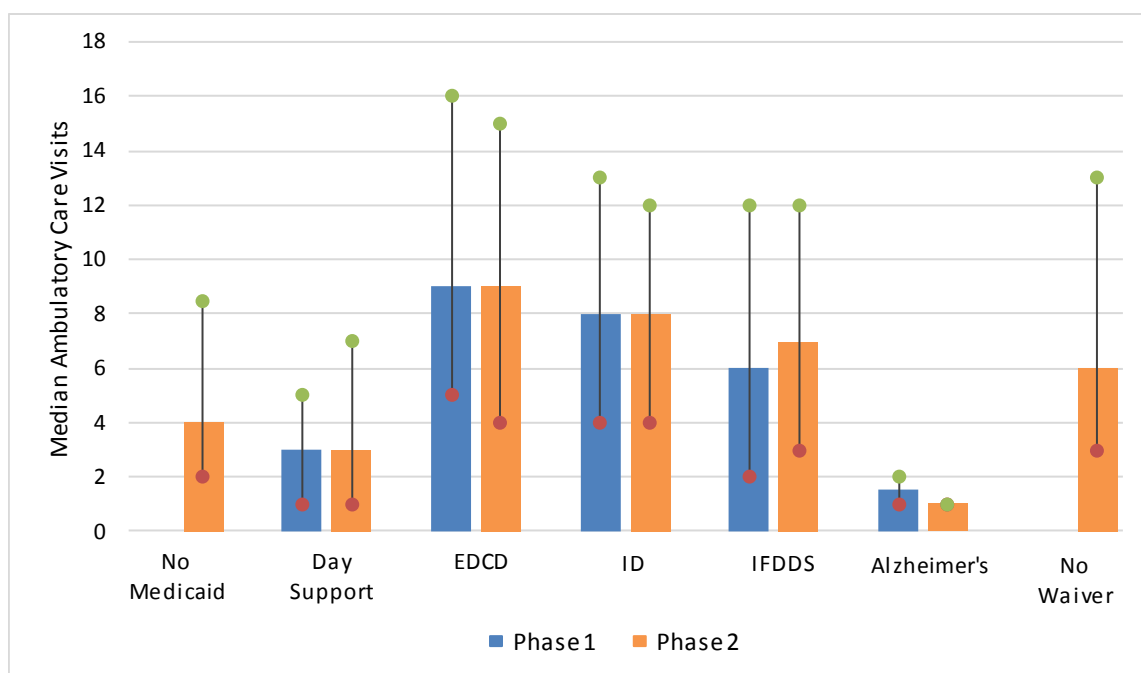
<sup>1</sup> “NA” is presented for the number of visits/service days for the *No Medical/LTC Services Utilization* indicator because these members did not receive any services during Phase I.

<sup>2</sup> The *Ambulatory Care Visits with a PCP-type Provider* indicator is based on a subset of members receiving an ambulatory visit with any provider type.

During Phase I, almost all HAP study members had at least one health visit/service among the medical utilization indicator categories, and 0.4 percent (n=33) of study members did not meet the criteria for any of the medical utilization study indicators. During Phase II, 1.0 percent (n=75) of study members had no medical service utilization. The volume of ambulatory visits varied across the study population and minimally across phases, with 50.0 percent (n=3,811) of study members having between five and 16 visits during Phase I, and 50.0 percent (n=3,452) of those members having between four and 15 visits during Phase II. While study members with no waiver at the conclusion of Phase II still had a relatively high proportion of ambulatory care service usage at 90.9 percent, study members with gaps in Medicaid coverage had the lowest ambulatory care usage (68.6 percent of study members with service gaps).

Figure 3-1 shows the distribution and interquartile range of ambulatory care visits by waiver program and measurement period. The horizontal bars show the median number of visits by members in each waiver program and study phase, while the vertical lines within each horizontal bar show the range of visits between the 25th and 75th percentiles of visit volume for each waiver program and measurement period. For example, there were 29 study members in the Day Support waiver program with ambulatory care visits during Phase II, and the median number of visits among these members was three with an interquartile range of one to seven visits.

**Figure 3-1—Distribution of Ambulatory Care Visits Among Study Members by HAP Waiver Program and Measurement Period**



Note: Because all study members were in a waiver program as of December 1, 2014, there are no members in the “No Waiver” or “No Medicaid” categories for Phase I.

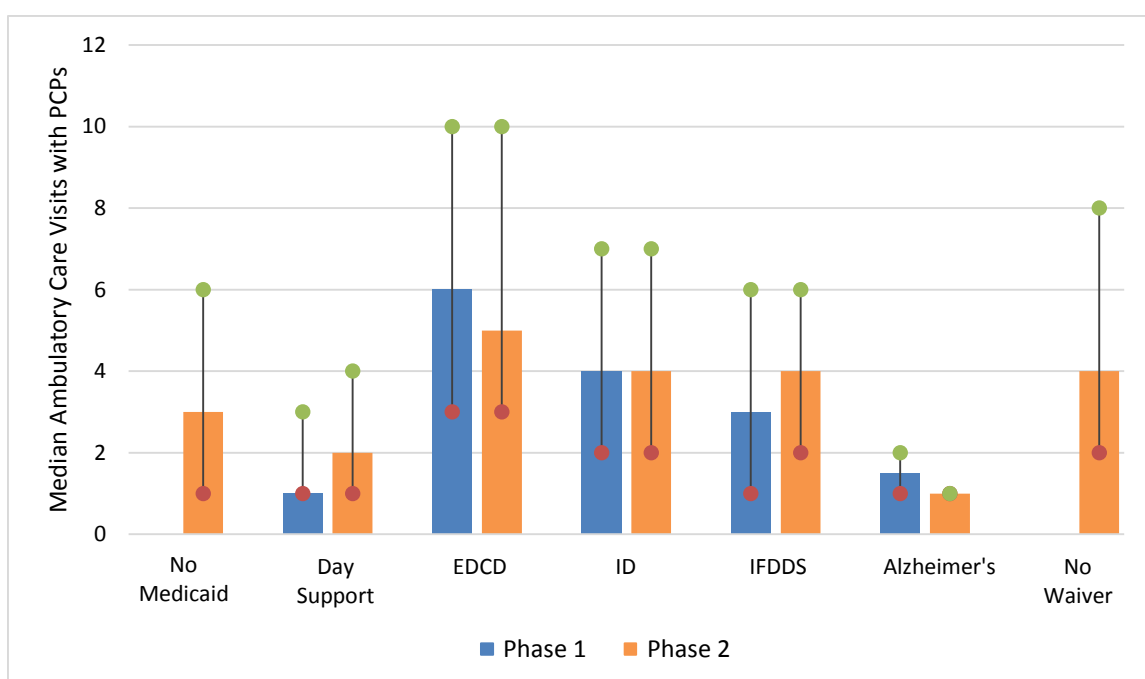
The overall average number of ambulatory care visits for all study members decreased slightly between Phase I to Phase II, from 11.6 visits to 10.7 visits. Supplemental analyses demonstrated that across MCO attribution categories, study members with gaps in Medicaid coverage during Phase II had the second largest proportion of persons with an increase in use of ambulatory care visits at 31.3 percent, compared to study members with one or more MCOs (39.9 percent and 40.3 percent, respectively). Study members with FFS and multiple MCOs had the lowest proportion of individuals with an increased number of visits at 27.8 percent.

Additional analyses indicated that nearly all study members with at least one ambulatory visit during Phase I had at least one ambulatory visit with a PCP-type provider (n=7,023, 96.7 percent of members with ambulatory visits). Members’ percentage of ambulatory visits with a PCP varied, and nearly 75.0 percent of study members with an ambulatory visit had at least half (50.0 percent) of their overall ambulatory visits with a PCP (n=5,265). Nearly one-fourth of study members (23.2 percent, n=1,629)

with an ambulatory care visit had ambulatory care visits exclusively with PCP-type providers during Phase I.

Figure 3-2 shows the distribution and interquartile range of ambulatory care visits with PCP-type providers by waiver program and measurement period. The horizontal bars show the median number of visits by members in each waiver program and study phase, while the vertical lines within each horizontal bar show the range of visits between the 25th and 75th percentiles of visit volume for each waiver program and measurement period.

**Figure 3-2—Distribution of Ambulatory Care Visits With PCPs Among Study Members by HAP Waiver Program and Measurement Period**



Note: Because all study members were in a waiver program as of December 1, 2014, there are no members in the “No Waiver” or “No Medicaid” categories for Phase I.

Nearly all study members with at least one ambulatory care visit during Phase II had at least one ambulatory visit with a PCP-type provider (n=6,635, 96.1 percent of members with ambulatory care visits). Further investigation of ambulatory care visits indicated that overall, visits with a PCP accounted for 67.7 percent of all ambulatory care visits. Although individual ambulatory care to PCP visit proportions ranged from 3.8 percent to 100.0 percent, 75.0 percent had at least half of their ambulatory care visits with a PCP-like provider.

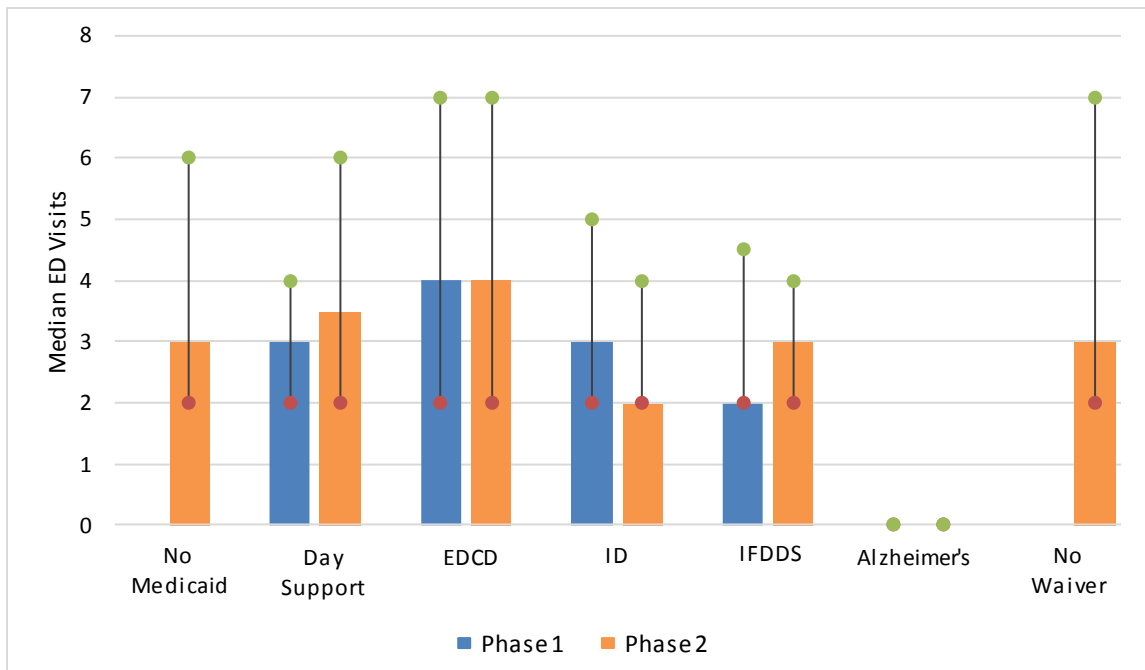
The proportion of all study members with ambulatory care visits with PCPs decreased minimally from Phase I to Phase II, at 92.1 percent versus 90.4 percent, respectively. As previously stated, 96.1 percent of Phase II study members with ambulatory care visits had at least one visit with a PCP, compared to 96.7 percent of Phase I study members. Also, the overall average number of visits with a PCP decreased minimally from Phase I to Phase II (7.2 visits and 6.8 visits, respectively).

Approximately one-third (32.2 percent, n=2,446) of study members received dental services during Phase I. Although members in most waiver programs had dental utilization rates less than 33.0 percent, 43.8 percent of members in the IFDDS program had at least one dental service during Phase I. Study members in the Alzheimer's waiver program received no dental services during Phase I.

Comparatively, during Phase II, approximately one-third (32.4 percent, n=2,379) of study members received dental services. Study members in the IFDDS waiver program at the close of Phase II had the highest dental service utilization rate, at 49.0 percent. It is important to note that study members with gaps in Medicaid coverage and those who did not have a HAP eligible waiver at the close of Phase II also had dental service utilization rates of 21.3 percent and 24.6 percent, respectively.

The overall proportion of study members with ED visits decreased between measurement periods (51.0 percent in Phase I and 48.1 percent in Phase II). On an individual level, 28.0 percent (n=2,052) of study members experienced an increased use of EDs between Phase I and Phase II, and this increase was primarily observed among members in the Day Support and IFDDS waiver programs. Figure 3-3 shows the distribution and interquartile range of ED visits by waiver program and measurement period. The horizontal bars show the median number of visits by members in each waiver program and study phase, while the vertical lines within each horizontal bar show the range of visits between the 25th and 75th percentiles of visit volume for each waiver program and measurement period.

**Figure 3-3—Distribution of ED Visits Among Study Members by HAP Waiver Program and Measurement Period**



Note: Because all study members were in a waiver program as of December 1, 2014, there are no members in the “No Waiver” or “No Medicaid” categories for Phase I.

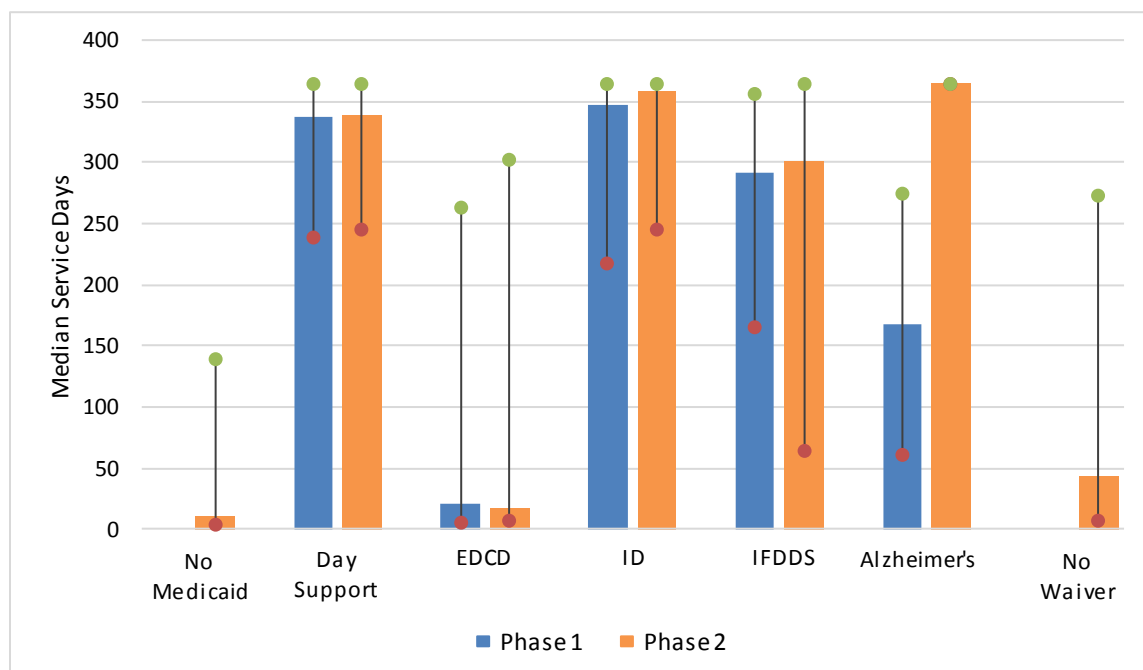
More than half of study members (n=3,886, 51.0 percent) had at least one ED visit during Phase I. Despite a wide range of ED visits among study members (i.e., between one and 169 visits), 62.6 percent of members had less than five ED visits during Phase I. ED utilization varied by waiver program, ranging from 53.1 percent of EDCD members to 15.0 percent of Day Support members with at least one ED visit. Study members in the Alzheimer's waiver program had no ED visits during Phase I.

Less than half of study members (n=3,530, 48.1 percent) had at least one ED visit during Phase II, compared to slightly over half during Phase I. Although the range of individual study members' ED visits spanned from one to 253, 75.0 percent of study members had six or fewer visits. As observed in Phase I, study members in the EDCD waiver program had the largest percentage of members with at least one ED visit (n=2,854, 50.9 percent).

Comparing Phase I to Phase II, the proportion of study members who received LTC services decreased from 94.0 percent to 90.6 percent. The proportion of study members who received LTC services year-round (365 or more services) increased minimally from approximately 9.1 percent to 10.1 percent, while the proportion of members who received less than 12 service days was relatively stable between phases (40.2 percent and 39.7 percent, respectively).

Figure 3-4 shows the distribution and interquartile range of LTC services by waiver program. The horizontal bars show the median number of services used by members in each waiver program and study phase, while the vertical lines within each horizontal bar show the range of services between the 25th and 75th percentiles of visit volume for each waiver program and measurement period.

**Figure 3-4—Distribution of LTC Service Days Among Study Members by HAP Waiver Program and Measurement Period**



Note: Because all study members were in a waiver program as of December 1, 2014, there are no members in the "No Waiver" or "No Medicaid" categories for Phase I.

HAP members are required to use at least one LTC service every 30 days while enrolled in the HCBS waiver. Nearly all study members used LTC services on at least one day during Phase I (94.0 percent of all study members, n=7,167). More than 90 percent of the study members in each waiver program had at least one LTC service day during Phase I, and utilization ranged from 93.5 percent of EDCD members to 100 percent of Day Support and Alzheimer's members. However, the range of LTC service days was wide, and 50.1 percent of the study members receiving LTC services had at least 50 unique service days during Phase I. Approximately 9.1 percent (n=652) of study members with at least one LTC service day had claims/encounters reflecting LTC services on each day during Phase I.

Additionally, almost all study members (90.6 percent, n=6,649) utilized LTC services during Phase II. Across the five waiver categories, utilization rates ranged from 91.2 percent of members (EDCD) to 100.0 percent of members (Alzheimer's, Day Support, and IFDDS). While 86.0 percent of study members who did not have a HAP-eligible waiver at the conclusion of Phase II utilized LTC services, only 59.0 percent of study members with gaps in Medicaid coverage utilized LTC services. As observed during Phase I, service days ranged from one day to 365 days, with 10.1 percent of study members receiving services every day of the year. Despite the LTC service requirement, 25 percent of study members had eight or fewer visits.

## Pharmacy Utilization

Five pharmacy indicators were created to assess pharmacy utilization of HAP study members. These indicators include the number of members with the following types of outpatient prescription drug utilization:

- Any prescription medication
- ADD/ADHD medications
- Antibiotics
- Antipsychotic medications
- Opiates

The member-specific number of unique prescriptions during Phase I was also assessed for each indicator. Detailed Phase I pharmacy utilization results by waiver program for each study indicator are presented in Appendix C, and Phase II results are presented in Appendix D. This assessment was restricted to outpatient prescription medications and did not consider medications administered to a member by a physician or health professional in an inpatient, outpatient, or professional setting.



Table 3-11 displays the number and percentage of members with at least one prescription by category, as well as descriptive statistics for the number of visits/service days administered by category for Phase I and Phase II. Medication counts were identified from pharmacy claims/encounters for prescription medications and may reflect refills for existing prescriptions. When assessing pharmacy utilization between study phases, it is important to note that the overall number of study members decreased between Phase I and Phase II.

**Table 3-11—Pharmacy Utilization Results by Study Indicator**

Study Indicator	Number	Percent	Number of Medications <sup>1</sup>			
			Mean	Median	Minimum	Maximum
Phase I Pharmacy Utilization						
No Medications <sup>2</sup>	561	7.4	NA	NA	NA	NA
Any Medication <sup>3</sup>	7,063	92.6	64.1	46	1	534
<i>ADD/ADHD Medications</i>	<i>1,444</i>	<i>18.9</i>	<i>11.8</i>	<i>11</i>	<i>1</i>	<i>98</i>
<i>Antibiotic Medications</i>	<i>4,337</i>	<i>56.9</i>	<i>3.7</i>	<i>2</i>	<i>1</i>	<i>49</i>
<i>Antipsychotic Medications</i>	<i>1,611</i>	<i>21.1</i>	<i>11.6</i>	<i>11</i>	<i>1</i>	<i>58</i>
<i>Opiate Medications</i>	<i>2,617</i>	<i>34.3</i>	<i>8.8</i>	<i>6</i>	<i>1</i>	<i>90</i>
Phase II Pharmacy Utilization						
No Medications <sup>2</sup>	738	10.1	NA	NA	NA	NA
Any Medication <sup>3</sup>	6,603	89.9	54.4	34	1	462
<i>ADD/ADHD Medications</i>	<i>1,341</i>	<i>18.3</i>	<i>10.4</i>	<i>9</i>	<i>1</i>	<i>59</i>
<i>Antibiotic Medications</i>	<i>3,691</i>	<i>50.3</i>	<i>3.6</i>	<i>2</i>	<i>1</i>	<i>46</i>
<i>Antipsychotic Medications</i>	<i>1,482</i>	<i>20.2</i>	<i>10.4</i>	<i>10</i>	<i>1</i>	<i>55</i>
<i>Opiate Medications</i>	<i>2,068</i>	<i>28.2</i>	<i>7.7</i>	<i>4</i>	<i>1</i>	<i>56</i>

<sup>1</sup> Maximum, minimum, mean, and median values were calculated over the Phase I measurement period (i.e., results do not consider monthly pharmacy utilization).

<sup>2</sup> “NA” is presented for the number of medications for the *No Medications* indicator because these members did not receive any medications during Phase I.

<sup>3</sup> The italicized rows are subsets of the *Any Medication* indicator, and sums of the italicized rows do not equal the *Any Medication* indicator totals because some members received multiple types of medication during Phase I.

During Phase I, 7,063 HAP members (92.6 percent) received at least one prescription, and 7.4 percent of members (n=561) did not receive any prescriptions during Phase I. Pharmacy utilization varied among individual members, with the number of medications ranging from one to 534. While 50.0 percent of members receiving any prescription medication had between one and 46 prescription medications, fewer than 10.0 percent of study members had more than 150 medications during Phase I. During Phase II, 6,603 HAP study members (89.9 percent) received at least one prescription, and 10.1 percent of members (n=738) did not receive any prescription medications. Similar to the Phase I utilization trends, pharmacy utilization during Phase II varied among individual members, with the number of medications ranging from zero to 462. During Phase II, 54.4 percent of study members (n=6,603) receiving any medication had between one and 34 medications, a reduction in the volume of prescriptions per person compared to Phase I. During Phase II, fewer than 10 percent of study members had more than 134 medications.

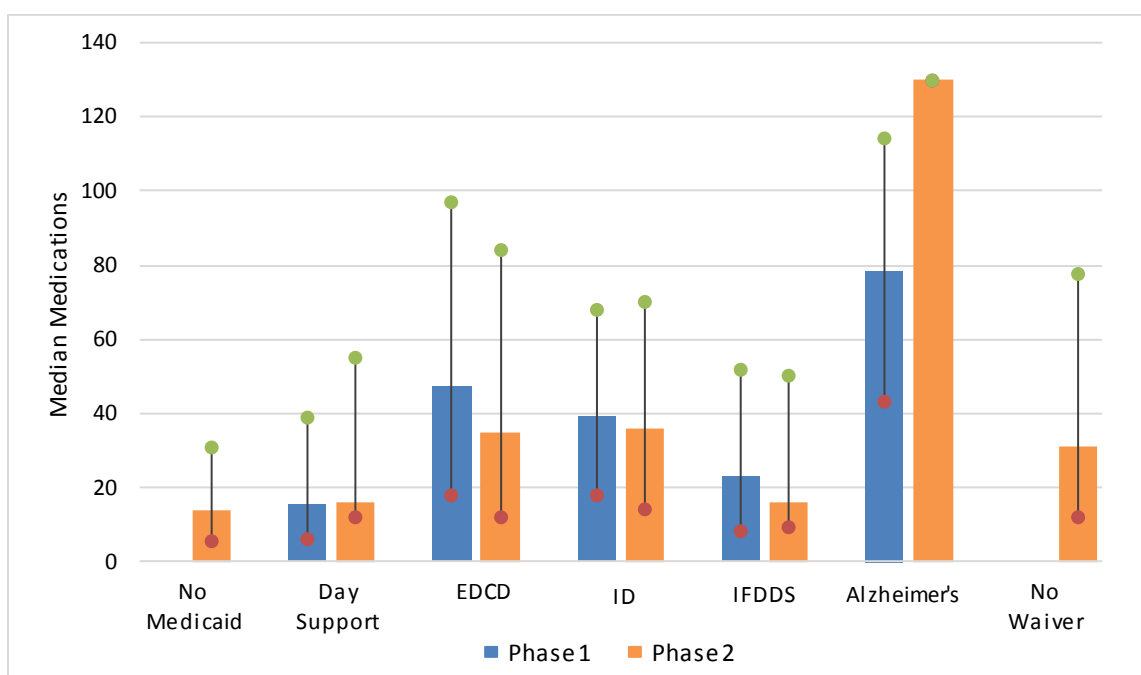
Among study members who received at least one prescription during Phase I, 45.5 percent (n=2,646) met the criteria for a single pharmacy utilization indicator, and the majority of members met the criteria for more than one indicator. Additionally, the mean number of medications was higher than the median number of medications for each study indicator, demonstrating the impact of relatively few members with high pharmacy utilization. For example, 10.0 percent of members with an antibiotic medication received between eight and 49 medications during Phase I. Additionally, 10.0 percent of members who received an opiate medication had between 22 and 90 opiates during Phase I.

Similar to Phase I, half of those who met the criteria for any pharmacy utilization indicator during Phase II met the study criteria for exactly one indicator (50.2 percent, n=2,611), which is an increase from Phase I for which 45.5 percent of those with any indicator met the criteria for exactly one indicator. Similar to Phase I, the majority of study members met the criteria for at least one indicator during Phase II (76.3 percent, n=5,820 in Phase I; 70.8 percent, n=5,198 in Phase 2). The overall proportion of members with exactly one pharmacy utilization indicator rose from 45.5 percent to 50.2 percent between the measurement periods, while the proportion with one or more indicators fell from 76.3 percent to 70.8 percent, signaling a decrease in the proportion of HAP study members who utilized more than one type of medication addressed by the study indicators.

Though utilization of pharmacy services was high across both phases of the study, a slightly smaller proportion of members had prescriptions filled during Phase II (92.6 percent versus 89.9 percent), and supplemental analyses assessed the overall trends in prescription volume between the measurement periods. Additionally, the total number of prescriptions filled decreased from Phase I to Phase II, from 452,817 to 359,155. Study members among the top 10 percent of pharmacy users in Phase I (who had between 147 and 534 prescriptions) had 21.2 percent fewer prescriptions filled during Phase II (136,453 versus 107,574, an overall range of one to 462 prescriptions).

Figure 3-5 presents the distribution and interquartile range of overall prescription medications by waiver program and measurement period. The horizontal bars show the median number of prescriptions for members in each waiver program by study phase, while the vertical lines within each horizontal bar show the range of prescriptions between the 25th and 75th percentiles of script volume for each waiver program and measurement period. For example, there were 19 Phase II study members in the Day Support waiver program with at least one prescription during this measurement period, and the median number of prescriptions among these members was 16 with an interquartile range of 12 to 51 prescriptions.

**Figure 3-5—Distribution of Prescription Medications Among Study Members by HAP Waiver Program and Measurement Period**

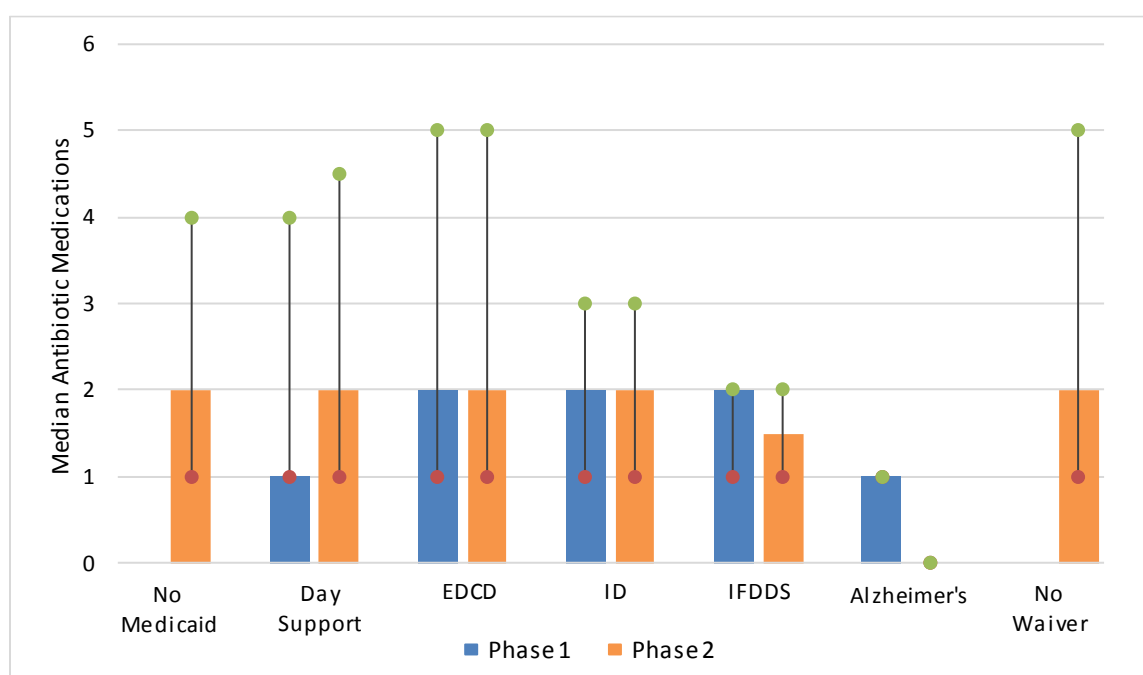


Note: Because all study members were in a waiver program as of December 1, 2014, there are no members in the “No Waiver” or “No Medicaid” categories for Phase I.

Supplemental analyses assessing pharmacy utilization by waiver program showed that most programs had high rates of pharmacy utilization during Phase I, with rates ranging from 91.7 percent to 100 percent for IFDDS, EDCD, ID, and Alzheimer’s members. Day Support program members had the lowest utilization rate; 65.0 percent of study members in this waiver filled at least one prescription during Phase I. Utilization rates ranged from 51.4 percent to 100 percent among waiver programs during Phase II, and members in the IFDDS, EDCD, ID, and Alzheimer’s waiver programs had pharmacy utilization rates ranging from 84.3 percent to 100 percent. Study members in the Day Support waiver program showed the lowest medication utilization rate (51.4 percent). Study members not enrolled in a waiver program at the end of Phase II showed a pharmacy utilization rate of 90.4 percent, while 70.3 percent of those with a gap in Medicaid coverage utilized pharmacy benefits during Phase II.

Similar to Phase I, study members in Phase II had the highest pharmacy utilization within the antibiotics study indicator, with more than half of members receiving at least one antibiotic medication during each measurement period. Figure 3-6 presents the distribution and interquartile range of antibiotics by waiver program and measurement period. The horizontal bars show the median number of antibiotic prescriptions for members in each waiver program by study phase, while the vertical lines within each horizontal bar show the range of prescriptions between the 25th and 75th percentiles of script volume for each waiver program and measurement period. While the mean and median values showing the number of antibiotic prescriptions are low, the median value is lower than the mean, implying that a few outlier study members with a high number of antibiotic prescriptions are driving the average number of prescriptions for this indicator.

**Figure 3-6—Distribution of Antibiotic Medications Among Study Members by HAP Waiver Program and Measurement Period**



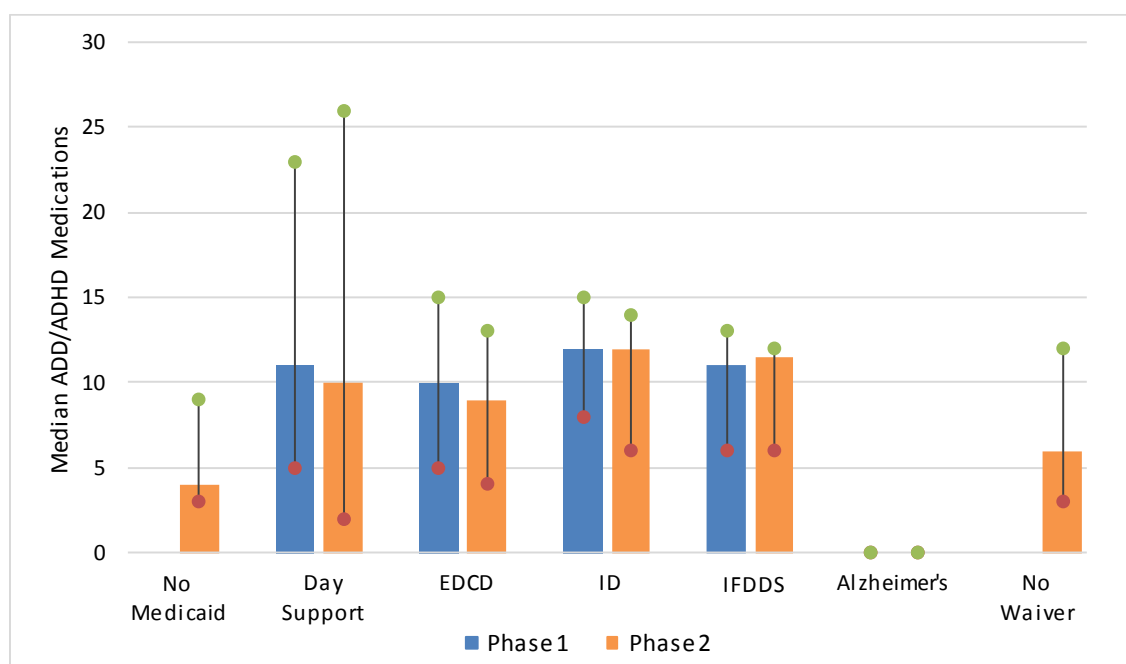
Note: Because all study members were in a waiver program as of December 1, 2014, there are no members in the “No Waiver” or “No Medicaid” categories for Phase I.

During Phase II, study members utilized antibiotics more than any of the other specified drug categories, with 50.3 percent (n=3,691) of study members receiving at least one antibiotic. During Phase I, 56.9 percent of study members used antibiotics (n=4,337). Additionally, the total number of prescriptions decreased across phases, from 16,167 to 13,104, a decrease of 18.9 percent. Study members among the top 10 percent of antibiotic users in Phase I (who had between eight and 49 prescriptions) had 36.7 percent fewer prescriptions filled during Phase II (3,596 versus 5,677, an overall range of one to 46 prescriptions).

Fewer study members used ADD/ADHD medications and antipsychotics during Phase II; however, members prescribed these drugs showed high utilization. Of the 18.3 percent of members utilizing

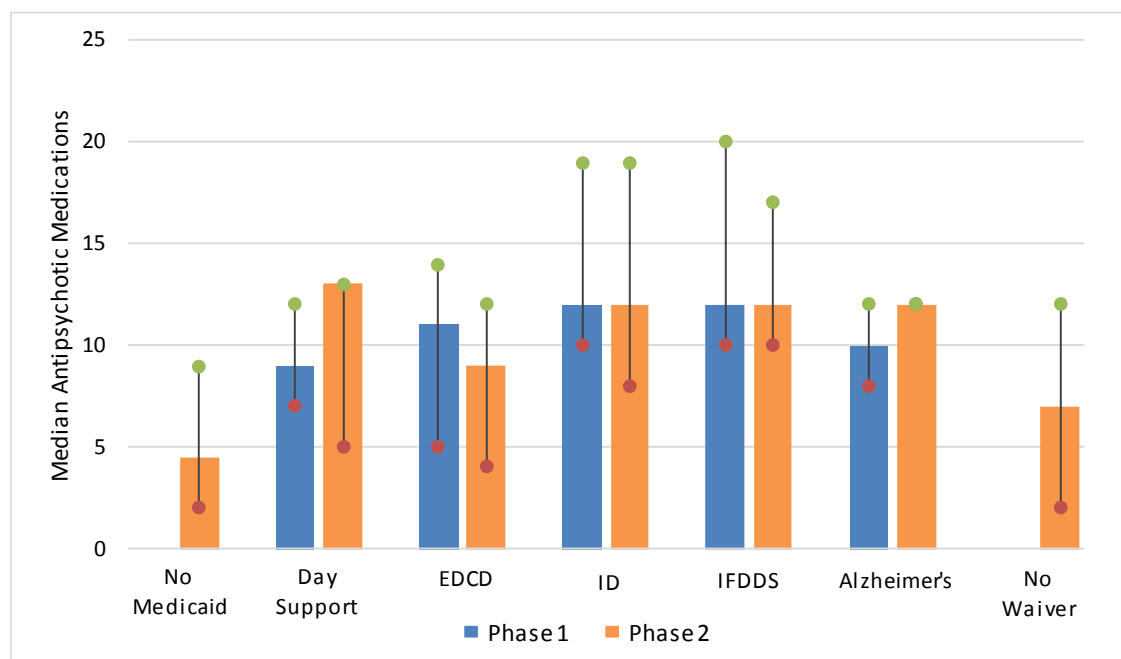
ADD/ADHD medications, the mean number of medications per person was 10.4 (a median of 9 prescriptions). Of the 20.2 percent of members utilizing antipsychotic medications, the mean number of medications was 10.4 (a median of 10 prescriptions). Figure 3-7 and Figure 3-8 present the distribution and interquartile range of ADD/ADHD medications and antipsychotics, respectively, by waiver program and measurement period. The horizontal bars show the median number of prescriptions for members in each waiver program by study phase, while the vertical lines within each horizontal bar show the range of prescriptions between the 25th and 75th percentiles of prescription volume for each waiver program and measurement period.

**Figure 3-7—Distribution of ADD/ADHD Medications Among Study Members by HAP Waiver Program and Measurement Period**



Note: Because all study members were in a waiver program as of December 1, 2014, there are no members in the “No Waiver” or “No Medicaid” categories for Phase I.

**Figure 3-8—Distribution of Antipsychotic Medications Among Study Members by HAP Waiver Program and Measurement Period**

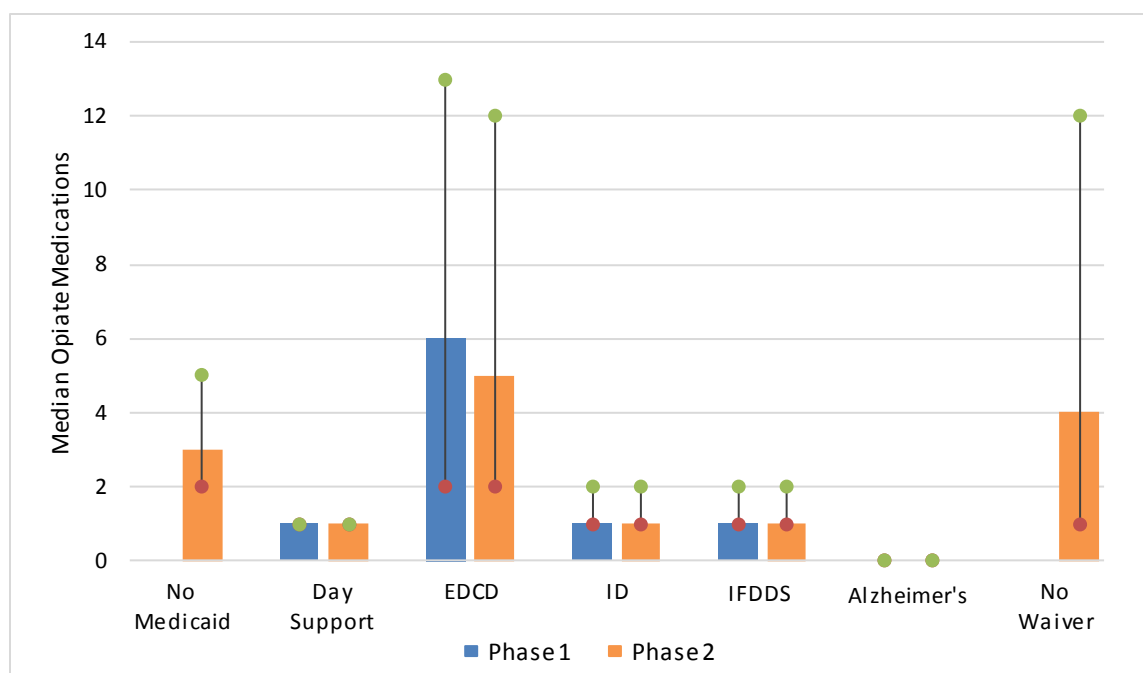


Note: Because all study members were in a waiver program as of December 1, 2014, there are no members in the “No Waiver” or “No Medicaid” categories for Phase I.

As observed in Phase I, rates of ADD/ADHD (18.3 percent, n=1,341) and antipsychotic (20.2 percent, n=1,482) medication usage were the smallest among study members during Phase II. During Phase I, 18.9 percent of study members used ADD/ADHD medications (n=1,444), and 21.1 percent used antipsychotic medications (n=1,611); thus, differences in usage were minimal. However, the total number of prescriptions filled decreased across phases—from 16,987 to 13,899 for ADD/ADHD drugs (18.2 percent decrease), and from 18,686 to 15,429 for antipsychotic drugs (17.4 percent decrease). Study members among the top 10 percent of ADD/ADHD prescription users in Phase I (who had between 24 and 98 prescriptions) had 28.2 percent fewer prescriptions filled during Phase II (3,230 versus 4,496, an overall range of two to 59 prescriptions). Study members among the top 10 percent of antipsychotic prescription users in Phase I (who had between 23 and 58 prescriptions) had 25.2 percent fewer prescriptions filled during Phase II (3,357 versus 4,486, an overall range of one to 55 prescriptions).

Opiate utilization varied minimally by waiver program across measurement periods. Within EDCD, the waiver with the largest population, antibiotics were the most frequently prescribed type of medication, followed by opiates. Figure 3-9 presents the distribution and interquartile range of opiate prescriptions by waiver program and measurement period. The horizontal bars show the median number of opiate prescriptions for members in each waiver program by study phase, while the vertical lines within each horizontal bar show the range of prescriptions between the 25th and 75th percentiles of prescription volume for each waiver program and measurement period.

**Figure 3-9—Distribution of Opiate Medication Volume Among Study Members by HAP Waiver Program and Measurement Period**



Note: Because all study members were in a waiver program as of December 1, 2014, there are no members in the “No Waiver” or “No Medicaid” categories for Phase I.

Opiate prescriptions had the second-highest study member usage rate of the four drug categories assessed during Phase II, at 28.2 percent (n=2,068). This proportion represents a decrease from the Phase I usage rate of 34.3 percent, although the number of members using opiates was constant across phases. There was a decrease in the total number of opiate prescriptions across phases, from 23,151 to 15,943 (a decrease of 31.1 percent). Study members among the top 10 percent of opiate users in Phase I (who had between 22 and 90 prescriptions), had 36.6 percent fewer prescriptions filled during Phase II (4,615 versus 7,280, an overall range of one to 56 prescriptions). While 78.7 percent (n=1,627) of study members using opiates during Phase II also had an opiate prescription during Phase I, 441 study members (6.0 percent) were prescribed opiates during Phase II, but not Phase I.



## 4. Conclusions and Recommendations

### Conclusions

This study assessed the extent to which HAP members utilized medical and pharmacy services during the first year in which the HAP program transitioned to managed care service delivery. The study design allowed comparison of service utilization prior to and after the transition by assessing utilization trends in the year prior to the December 1, 2014, HAP program transition (i.e., December 1, 2013, through November 30, 2014), and comparing them to utilization trends observed in the year following the transition (i.e., December 1, 2014, through November 30, 2015).

Enrollment in managed care may facilitate overall medical service management for HAP members more effectively than care coordination efforts through a FFS delivery system. As such, assessment of (1) trends in the detection of clinical disease diagnoses, and (2) the utilization of medical and pharmacy services across measurement periods was initiated to investigate the impact of continuous managed care for the study population. Continuous enrollment in managed care among HAP members increased between Phase I and Phase II. While the proportion of study members with continuous enrollment in one or more MCOs increased across all five waiver programs, study members in the EDCD waiver program with continuous enrollment displayed the greatest increase from Phase I to Phase II, and the increase potentially resulted from changes in the EDCD waiver enrollment process. Variation in MCO and FFS enrollment was observed in both Phase I and Phase II. Although all study members were enrolled in an MCO on December 1, 2014, MCO and/or Medicaid enrollment for many study members lapsed during Phase II, and many did not receive continuous managed care coverage. Some members transitioned into different Medicaid delivery system programs including the Limited Coverage Program, the Commonwealth Coordinated Care (CCC) Program, and the Program for All-Inclusive Care for the Elderly (PACE). The lack of stability in continuous managed care coverage could negatively impact service utilization and the effectiveness of care coordination and disease management services provided by MCOs.

Two of the three clinical indicators assessed in this study (i.e., diabetes and CAD) are within the top 10 leading causes of death for adults in the United States.<sup>4-1</sup> Thus, a key goal of care coordination or case management for populations with higher than average rates of diabetes, CAD, and mental health diagnoses should be disease management and tertiary prevention efforts designed to minimize the impact of disease progression. A majority of the study members were identified as having diabetes and/or mental health issues and were consistently identified as such over both Phase I and Phase II. However, diagnosis of CAD was less consistent, and more than half of the study members who were identified through diagnosis as having CAD in Phase I were not similarly identified with this disease in Phase II.

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<sup>4-1</sup> National Center for Health Statistics. Health, United States, 2015: With Special Feature on Racial and Ethnic Health Disparities. Hyattsville, MD. 2016. Available at: <http://www.cdc.gov/nchs/data/abus/abus15.pdf>. Accessed on: August 9, 2016.

Study indicators for medical utilization services demonstrated minimal decreases in utilization of ambulatory, dental, ED, and LTC services from Phase I to Phase II. Between Phase I and Phase II, the proportion of study members utilizing medical services decreased, with decreases observed in the overall volume of visits for all members, as well as in the average number of visits by individual study members. Benefits and services covered by the MCOs may have impacted the utilization rate of specific indicators, such as dental services. Dental utilization trends were similar over both measurement phases for members 17 years and younger, and members 20 years and younger are eligible for dental benefits. HAP members 21 years and older, however, are only eligible for coverage of emergency dental services. Utilization of ED services decreased, and this may be attributed to the increase in the number of study members whose ambulatory visits were with a PCP-type provider.

Fewer study members had at least one LTC service during Phase II, and a smaller proportion of study members received at least one LTC service every 30 days in alignment with the LTC service provision standard for members in the HAP waiver program. However, LTC services are provided outside of managed care coverage, and the decrease in utilization rates and the range of LTC service volume across study members is not attributable to members' transition to managed care service delivery.

From Phase I to Phase II, study indicators for pharmacy utilization also demonstrated decreases for all drugs in the proportion of members with prescriptions, as well as the total volume of prescriptions for each indicator. The volume of antibiotic and opiate prescriptions especially decreased. It is also important to note that the top 10 percent of antibiotic and opiate users from Phase I had a smaller range of use of those prescriptions during Phase II, indicating that the transition to managed care could have influenced the reduction in the over-prescription and overlapping prescriptions by providers, as well as the overall reduction in the number of drugs prescribed to individuals. This finding could be indicative of the impact of care coordination under managed care, but it may also be impacted by individual MCOs' pharmacy formularies.

Overall and waiver-specific study findings provide insight into opportunities for further study among this specialized group of Medicaid members with high disease morbidity and levels of service utilization. Focusing on service utilization in the years before and after implementation of statewide managed care for the HAP program, the study demonstrated the consistency with which members with clinical indicators were identified, and how care coordination potentially impacted members' use of medical and pharmacy services. Although quantifying the effectiveness of continuous managed care on disease management was beyond the current scope of investigation, this focused study established a framework for future investigation and quality improvement activities.

## Recommendations

Beginning July 1, 2017, members with HAP-based waivers will be included in the transition, by region, to DMAS' MLTSS program. Consequently, recommendations are framed to address analytic insights gained from the HAP population's initial transition to managed care that can be continued with the transition to the MLTSS program. Based on the findings outlined in this report, HSAG recommends the following:

- DMAS should continue to monitor, trend, and evaluate study indicator rates among the HAP waiver population as members are transitioned into the MLTSS program. Specifically, continued analysis of the medical and pharmacy utilization rates will enrich the longitudinal understanding of the needs of the HAP waiver population and the effectiveness of the program.
  - While the identification of those individuals with mental health issues remained stable over both phases, identification of those beneficiaries with diabetes or CAD was not consistent between Phase I, and Phase II when, as of December 1, 2014, these beneficiaries were enrolled with an MCO. To ensure continuity of care among HAP members with chronic health conditions (and in the future, all subpopulations integrated into the MLTSS program), MCOs should establish additional monitoring to identify HAP members with chronic conditions, as well as collect and assess data on the utilization rates of preventive care services, participation in care coordination, and health outcomes.
- As appropriate, ambulatory care may reduce the need for inpatient hospitalizations and emergency care. Understanding which clinical conditions were most frequently associated with inpatient admissions and outpatient services for the study population would allow DMAS to more thoroughly assess the impact of managed care on preventable hospitalizations.
  - DMAS should consider assessing the nature of members' ED visits using New York University's Center for Health and Public Service Research algorithm for classifying ED visits based on the degree to which visits required emergent care.<sup>4-2</sup>
  - Similarly, DMAS should expand monitoring of ambulatory care-sensitive conditions among HAP members, including hypertension and asthma, to ensure that the transition of this population to managed care under the MLTSS program increases utilization of preventive care and/or disease management services, thereby reducing unnecessary hospital admissions and preventable ED visits.
  - Further investigation into drug utilization patterns for study members with chronic illnesses was outside the scope of this study, and DMAS should consider conducting such analyses to gain further insight into the impacts of managed care on pharmacy utilization.
- With more than one year of continuous managed care enrollment for some HAP members, DMAS should conduct longitudinal analyses of member satisfaction as those HAP members are transitioned into the MLTSS program. In combination with the recommended program monitoring analyses to assess HAP members' service utilization, a survey would provide a comprehensive picture of HAP members' satisfaction with their experience of care.
- DMAS should work with the MCOs to catalog MCOs' existing and planned care coordination and/or case management efforts for HAP members, as well as any evaluations designed to monitor these programs with the transition of applicable members into the MLTSS program. DMAS may use the member-level study results (i.e., the analytic dataset) produced as a complement to this report to identify specific subpopulations for targeted quality improvement activities.

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<sup>4-2</sup> NYU Wagner. Available at: <http://wagner.nyu.edu/faculty/billings/nyued-background>. Accessed on August 3, 2016.

## Appendix A. Study Indicators

For reference, Table A-1 has been replicated from the Indicators section of the SFY 2016 Health and Acute Program Focused Study Methodology.

Table A-1 illustrates the study indicators included in the study, as well as the numerator and denominator definitions. Medicaid members in the HAP program serve as the unit of analysis.

For consistency with other quality initiatives, clinical and billing codes noted in the Healthcare Effectiveness Data and Information Set (HEDIS®)<sup>A-1</sup> 2016 value sets were used, and applicable HEDIS 2016 value sets are named in the study indicator descriptions.

**Table A-1—Study Metrics**

Metric	Description
<b>Demographic Profile</b>	
1. Age	Member's age as of December 1, 2014 Category Values: Numeric age in years (e.g., 1, 2, 3, etc.)  Member's age will be aggregated into four categories for graphic presentation: 17 years and younger, 18 years through 34 years, 35 years through 64 years, and 65 years and older.
2. Sex	Member's sex (gender) Category Values: Female, Male, Other
3. Race/Ethnicity	Member's race/ethnicity Category Values: White, African American, Asian, Hispanic, Other  Race/ethnicity will be defined based on the member's non-Hispanic race (i.e., White, non-Hispanic) classification; <i>Hispanic</i> members of any race will be reported in the Hispanic category. Race/ethnicities in the <i>Other</i> category may be reported independently if the denominator is greater than 30 members.
4. Region of Residence	Member's region of residence; metrics established as of 12/1/2013, 12/1/2014, and 11/30/2015. Category Values: Central, Charlottesville, Far Southwest, Halifax/Lynchburg, Northern/Winchester, Roanoke/Alleghany, Tidewater, Out of State  Region of residence will be defined based on a member's county of residence as of December 1, 2014, using the Virginia Managed Care Regions Map and Federal Information Processing Standards (FIPS) codes defined in Appendix A of the External Quality Review Organization (EQRO) Request for Proposal (RFP).
5. Managed Care Plan	A member's managed care plan; metrics established as of 12/1/2013, 12/1/2014, and 11/30/2015.

<sup>A-1</sup> HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).

Metric	Description
	<p>Category Values: Anthem, Coventry, INTotal, Kaiser Permanente, Optima, VA Premier, Fee-For-Service (FFS)</p> <p>Note: MajestaCare will be a valid category value for members as of 12/1/2013 only.</p>
6. Change in Managed Care Plan	A binary indicator (i.e., Yes or No) noting whether the member changed managed care plans during the measurement period for each study phase.
7. Waiver Program	<p>A member's waiver program; metrics established as of 12/1/2013, 12/1/2014, and 11/30/2015.</p> <p>Category Values: Day Support, Elderly or Disabled With Consumer Direction (EDCD), Individuals with Intellectual Disability (ID), Individual and Family Developmental Disabilities Support (IFDDS), Alzheimer's, No Waiver</p>
<b>Clinical Profile</b>	
1. Diabetes	<p>A binary indicator (i.e., Yes or No) noting whether the member had a diagnosis of diabetes at any time during the measurement period for each study phase.</p> <p>Diabetes will be identified based on diagnosis and procedure codes from claims/encounter data using the following HEDIS-like specifications:</p> <ul style="list-style-type: none"> <li>Members who met any of the following criteria during the measurement period: <ul style="list-style-type: none"> <li>At least two outpatient visits (<i>Outpatient Value Set</i>), observation visits (<i>Observation Value Set</i>), Emergency Department (ED) visits (<i>ED Value Set</i>) or non-acute inpatient encounters (<i>Non-acute Inpatient Value Set</i>) on different dates of service, with a diagnosis of diabetes (<i>Diabetes Value Set</i>). Visit type need not be the same for the two visits.</li> <li>At least one acute inpatient encounter (<i>Acute Inpatient Value Set</i>) with a diagnosis of diabetes (<i>Diabetes Value Set</i>).</li> <li>Members who were dispensed insulin or hypoglycemics/ antihyperglycemics on an ambulatory basis during the measurement period (NDC Table CDC-A).</li> </ul> </li> </ul>
2. Coronary Artery Disease (CAD)	<p>A binary indicator (i.e., Yes or No) noting whether the member had a diagnosis of coronary artery disease (CAD) during the measurement period for each study phase.</p> <p>CAD will be identified as claim/encounter data with a diagnosis of ICD-9-CM 414.x, 410.xx, or 429.9, where ".xx" indicates any specific code subordinate to the overall category. Corresponding ICD-10-CM codes for Phase II data analyses will be identified by HSAG and submitted for DMAS approval prior to initiation of the Phase II analyses.</p>
3. Mental Health Diagnosis	<p>A binary indicator (i.e., Yes or No) noting whether the member had a mental health diagnosis at any time during the measurement period for each study phase.</p> <p>A mental health diagnosis will be identified from diagnoses on claim/encounter data using the HEDIS <i>Mental Health Diagnosis Value Set</i>.</p>

Metric	Description
<b>Medical Utilization</b>	
1. Ambulatory Care Visits	<p>The number of unique ambulatory care visits attributed to the member during the measurement period for each study phase.</p> <p>An ambulatory care visit will be identified from claim/encounter data using the HEDIS <i>Ambulatory Visit</i> Value Set or the <i>Other Ambulatory Visits</i> Value Set. Ambulatory care visits occurring on the same date of service with the same provider will be counted as a single visit.</p>
2. Ambulatory Care Visits with a PCP-Type Provider*	<p>The number of unique ambulatory care visits with a PCP-type provider attributed to the member during the measurement period for each study phase.</p> <p>An ambulatory care visit will be identified from claim/encounter data using the HEDIS <i>Ambulatory Visit</i> Value Set or the <i>Other Ambulatory Visits</i> Value Set. Ambulatory care visits occurring on the same date of service with the same provider will be counted as a single visit.</p>
3. Dental Visits	<p>A binary indicator (i.e., Yes or No) noting whether or not the member had a dental visit with a dental practitioner during the measurement period for each study phase.</p> <p>A dental visit will be identified from encounter data using the HEDIS <i>Dental Visits</i> Value Set. Dental procedures occurring on the same date of service with the same provider will be counted as a single visit.</p>
4. Emergency Department (ED) Visits	<p>The number of unique ED visits attributed to the member during the measurement period for each study phase. ED visits resulting in an inpatient encounter or for the purposes of receiving mental health or chemical dependency services will be excluded.</p> <p>An ED visit will be identified as claims/encounter data with a value from the HEDIS <i>ED</i> Value Set or a value from each of the <i>ED Procedure Code</i> Value Set and <i>ED POS</i> Value Set. ED visits occurring on the same date of service with the same provider will be counted as a single visit.</p>
5. Long-Term Care (LTC) Service Days	<p>The number of unique days in which the members received LTC services for each study phase.</p> <p>LTC services will be identified from claim/encounter data using the list of Long-Term Services and Supports (LTSS) Waiver Service Codes supplied by DMAS (Table 2).</p>
<b>Pharmacy Utilization</b>	
1. Prescriptions	The number of unique prescriptions attributed to the member during the measurement period for each study phase.
2. Prescriptions for ADD/ADHD Medications	<p>The number of unique prescriptions for ADD/ADHD medications attributed to the member during the measurement period for each study phase.</p> <p>Prescription ADD/ADHD medications will be identified using HEDIS NDC Table ADD-A.</p>



Metric	Description
3. Prescriptions for Antibiotics	<p>The number of unique prescriptions for antibiotics attributed to the member during the measurement period for each study phase.</p> <p>Prescription antibiotics will be identified using HEDIS NDC Table ABX-A.</p>
4. Prescriptions for Antipsychotics	<p>The number of unique prescriptions for antipsychotic medications attributed to the member during the measurement period for each study phase.</p> <p>Prescription antipsychotics will be identified using HEDIS NDC Table SSD-D or the HEDIS <i>Long-Acting Injections</i> Value Set.</p>
5. Prescriptions for Opiates	<p>The number of unique prescriptions for natural or synthetic opiates attributed to the member during the measurement period for each study phase.</p> <p>Prescription opiates will be identified from the Medi-Span pharmacy database as drugs with a generic product identifier beginning with “65”, “431010”, “439950”, “439951”, “439952”, “439953”, or “439954”.</p>
<p>* Based on direction from DMAS, HSAG may add up to two Medical Utilization metrics similar to the <i>Ambulatory Care Visits with a PCP-Type Provider</i> metric. These metrics will focus on ambulatory visits with specific specialty provider types (e.g., cardiologists or endocrinologists).</p> <p>** For all pharmacy utilization measures, HSAG will identify unique prescriptions by de-duplicating paid prescription drug claims/encounters by Member, Date of Service, National Drug Code (NDC), and Billing Provider (Pharmacy). HSAG may recommend alternate criteria based upon consideration of the data.</p>	



## Appendix B. Demographic Characteristics of Study Members

### Phase I Demographic Characteristics as of December 1, 2014, by Waiver Program

**Table B-1—Distribution of Study Members by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2014	HAP Waiver Program										Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's			
	n	%	n	%	n	%	n	%	n	%	n	%
Total	40	100.0	6,779	100.0	755	100.0	48	100.0	2	100.0	7,624	100.0
Age Category												
17 Years and Younger	4	10.0	2,625	38.7	160	21.2	20	41.7	0	0.0	2,809	36.8
18 Through 34 Years	33	82.5	1,008	14.9	516	68.3	27	56.3	0	0.0	1,584	20.8
35 Through 64 Years	3	7.5	2,547	37.6	72	9.5	1	2.1	1	50.0	2,624	34.4
65 Years and Older	0	0.0	599	8.8	7	0.9	0	0.0	1	50.0	607	8.0
Sex Category												
Female	18	45.0	3,527	52.0	301	39.9	7	14.6	2	100.0	3,855	50.6
Male	22	55.0	3,252	48.0	454	60.1	41	85.4	0	0.0	3,769	49.4
Race Category												
White, Non-Hispanic	19	47.5	2,668	39.4	344	45.6	25	52.1	2	100.0	3,058	40.1
Black, Non-Hispanic	17	42.5	2,806	41.4	324	42.9	18	37.5	0	0.0	3,165	41.5
Asian, Non-Hispanic	2	5.0	249	3.7	31	4.1	1	2.1	0	0.0	283	3.7
Hispanic, Any Race	2	5.0	566	8.3	39	5.2	1	2.1	0	0.0	608	8.0
Other/Unknown	0	0.0	490	7.2	17	2.3	3	6.3	0	0.0	510	6.7
Region												
Central	7	17.5	1,783	26.3	257	34.0	13	27.1	0	0.0	2,060	27.0
Charlottesville	2	5.0	522	7.7	53	7.0	6	12.5	1	50.0	584	7.7
Far Southwest	2	5.0	297	4.4	19	2.5	0	0.0	0	0.0	318	4.2
Halifax/Lynchburg	8	20.0	468	6.9	51	6.8	7	14.6	0	0.0	531	7.0

Demographic Category as of December 1, 2014	HAP Waiver Program										Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's			
	n	%	n	%	n	%	n	%	n	%	n	%
Northern/Winchester	6	15.0	1,523	22.5	143	18.9	5	10.4	0	0.0	1,677	22.0
Roanoke/Alleghany	3	7.5	706	10.4	89	11.8	5	10.4	1	50.0	804	10.5
Tidewater	12	30.0	1,483	21.9	143	18.9	12	25.0	0	0.0	1,650	21.6
MCO												
Anthem	9	22.5	2,496	36.8	272	36.0	13	27.1	0	0.0	2,790	36.6
Coventry	1	2.5	311	4.6	34	4.5	4	8.3	0	0.0	350	4.6
INTotal	3	7.5	452	6.7	43	5.7	0	0.0	0	0.0	498	6.5
Kaiser Permanente	0	0.0	85	1.3	0	0.0	0	0.0	0	0.0	85	1.1
Optima	15	37.5	1,655	24.4	189	25.0	10	20.8	0	0.0	1,869	24.5
VA Premier	12	30.0	1,780	26.3	217	28.7	21	43.8	2	100.0	2,032	26.7

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

## Phase II Demographic Characteristics as of December 1, 2015, by Waiver Program

**Table B-2—Distribution of Study Members by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2015	HAP Waiver Program														Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Total	37	100.0	5,612	100.0	742	100.0	51	100.0	1	100.0	659	100.0	239	100.0	7,341	100.0
Age Category																
17 Years and Younger	4	10.8	2,208	39.3	163	22.0	19	37.3	0	0.0	192	29.1	89	37.2	2,675	36.4
18 Through 34 Years	27	73.0	903	16.1	494	66.6	29	56.9	0	0.0	139	21.1	44	18.4	1,636	68.3
35 Through 64 Years	6	16.2	1,988	35.4	75	10.1	3	5.9	0	0.0	236	35.8	88	36.5	2,396	32.6
65 Years and Older	0	0.0	513	9.1	10	1.3	0	0.0	1	100.0	92	14.0	18	7.5	634	8.6
Sex Category																
Female	16	43.2	2,951	52.6	293	39.5	8	15.7	1	100.0	299	45.4	113	47.3	3,681	50.1
Male	21	56.8	2,661	47.4	449	60.5	43	84.3	0	0.0	360	54.6	126	54.7	3,660	49.9
Race Category																
White, Non-Hispanic	17	46.0	1,919	34.2	296	39.9	26	51.0	0	0.0	251	38.1	85	35.6	2,594	35.3
Black, Non-Hispanic	11	29.7	2,032	36.2	276	37.2	15	29.4	0	0.0	217	32.9	84	35.1	2,635	35.9
Asian, Non-Hispanic	2	5.4	198	3.5	32	4.3	1	2.0	0	0.0	13	2.0	10	4.2	256	3.5
Hispanic, Any Race	7	18.9	1,120	20.0	122	16.4	7	13.7	1	100.0	106	16.1	40	16.7	1,403	19.1
Other/Unknown	0	0.0	343	6.1	16	2.2	2	3.9	0	0.0	72	10.9	20	8.4	453	6.2
Region																
Central	7	18.9	1,480	26.4	260	35.0	12	23.5	0	0.0	183	27.8	0	0.0	1,942	26.5
Charlottesville	1	2.7	443	7.9	54	7.3	5	9.8	0	0.0	44	6.7	0	0.0	547	7.5
Far Southwest	2	5.4	229	4.1	23	3.1	0	0.0	0	0.0	36	5.5	0	0.0	290	4.0
Halifax/Lynchburg	7	18.9	384	6.8	57	7.7	9	17.6	0	0.0	43	6.5	0	0.0	500	6.8
Northern/Winchester	6	16.2	1,269	22.6	123	16.6	5	9.8	0	0.0	156	23.7	0	0.0	1,559	21.2
Roanoke/Alleghany	3	8.1	589	10.5	89	12.0	7	13.7	1	100.0	63	9.6	0	0.0	752	10.2

Demographic Category as of December 1, 2015	HAP Waiver Program														Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Tidewater	11	29.7	1,218	21.7	136	18.3	13	25.5	0	0.0	134	20.3	0	0.0	1,512	20.6
Missing/Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	239	100.0	239	3.3
MCO																
Anthem	10	27.0	2,124	37.8	265	35.7	11	21.6	0	0.0	30	4.6	0	0.0	2,440	33.2
Coventry	1	2.7	245	4.4	35	4.7	4	7.8	0	0.0	2	0.3	0	0.0	287	3.9
INTotal	3	8.1	334	6.0	37	5.0	0	0.0	0	0.0	3	0.5	0	0.0	377	5.1
Kaiser Permanente	0	0.0	39	0.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	39	0.5
Optima	12	32.4	1,366	24.3	189	25.5	12	23.5	0	0.0	15	2.3	0	0.0	1,594	21.7
VA Premier	11	29.7	1,504	26.8	216	29.1	24	47.1	1	100.0	26	3.9	0	0.0	1,782	24.3
FFS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	499	75.7	0	0.0	499	6.8
MCO Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	84	12.7	239	100.0	323	4.4

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

## Appendix C. Phase I Detailed Findings by Waiver Program

### Clinical Indicator Results by HAP Waiver Program

**Table C-1—Distribution of Study Members With Diabetes During Phase I by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2014, With Diabetes During Phase I	HAP Waiver Program										Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's			
	n	%	n	%	n	%	n	%	n	%	n	%
Total	1	100.0	1,377	100.0	55	100.0	3	100.0	1	100.0	1,437	100.0
Age Category												
17 Years and Younger	0	0.0	26	1.9	3	5.5	0	0.0	0	0.0	29	2.0
18 Through 34 Years	1	100.0	54	3.9	26	47.3	3	100.0	0	0.0	84	5.8
35 Through 64 Years	0	0.0	1,026	74.5	23	41.8	0	0.0	0	0.0	1,049	73.0
65 Years and Older	0	0.0	271	19.7	3	5.5	0	0.0	1	100.0	275	19.1
Sex Category												
Female	1	100.0	1,018	73.9	28	50.9	0	0.0	1	100.0	1,048	72.9
Male	0	0.0	359	26.1	27	49.1	3	100.0	0	0.0	389	27.1
Race Category												
White, Non-Hispanic	0	0.0	474	34.4	23	41.8	2	66.7	1	100.0	500	34.8
Black, Non-Hispanic	1	100.0	769	55.8	25	45.5	1	33.3	0	0.0	796	55.4
Asian, Non-Hispanic	0	0.0	54	3.9	5	9.1	0	0.0	0	0.0	59	4.1
Hispanic, Any Race	0	0.0	44	3.2	1	1.8	0	0.0	0	0.0	45	3.1
Other/Unknown	0	0.0	36	2.6	1	1.8	0	0.0	0	0.0	37	2.6
Region												
Central	0	0.0	378	27.5	18	32.7	0	0.0	0	0.0	396	27.6
Charlottesville	0	0.0	86	6.2	3	5.5	0	0.0	0	0.0	89	6.2
Far Southwest	0	0.0	78	5.7	0	0.0	0	0.0	0	0.0	78	5.4
Halifax/Lynchburg	1	100.0	122	8.9	4	7.3	0	0.0	0	0.0	127	8.8
Northern/Winchester	0	0.0	223	16.2	13	23.6	1	33.3	0	0.0	237	16.5
Roanoke/Alleghany	0	0.0	149	10.8	8	14.5	0	0.0	1	100.0	158	11.0
Tidewater	0	0.0	341	24.8	9	16.4	2	66.7	0	0.0	352	24.5
MCO												
Anthem	0	0.0	453	32.9	21	38.2	1	33.3	0	0.0	475	33.1
Coventry	0	0.0	63	4.6	6	10.9	0	0.0	0	0.0	69	4.8
INTotal	0	0.0	81	5.9	2	3.6	0	0.0	0	0.0	83	5.8
Kaiser Permanente	0	0.0	7	0.5	0	0.0	0	0.0	0	0.0	7	0.5
Optima	1	100.0	398	28.9	11	20.0	0	0.0	0	0.0	410	28.5
VA Premier	0	0.0	375	27.2	15	27.3	2	66.7	1	100.0	393	27.3

**Table C-2—Distribution of Study Members With a Phase I CAD Diagnosis by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2014, With a CAD Diagnosis During Phase I	HAP Waiver Program <sup>1</sup>								Total	
	EDCD		ID		IFDDS		Alzheimer's			
	n	%	n	%	n	%	n	%	n	%
Total	733	100.0	11	100.0	1	100.0	1	100.0	746	100
Age Category										
17 Years and Younger	14	1.9	2	18.2	0	0.0	0	0.0	16	2.1
18 Through 34 Years	18	2.5	4	36.4	1	100.0	0	0.0	23	3.1
35 Through 64 Years	553	75.4	5	45.5	0	0.0	1	100.0	559	74.9
65 Years and Older	148	20.2	0	0.0	0	0.0	0	0.0	148	19.8
Sex Category										
Female	505	68.9	5	45.5	0	0.0	1	100.0	511	68.5
Male	228	31.1	6	54.5	1	100.0	0	0.0	235	31.5
Race Category										
White, Non-Hispanic	278	37.9	8	72.7	1	100.0	1	100.0	288	38.6
Black, Non-Hispanic	385	52.5	3	27.3	0	0.0	0	0.0	388	52
Asian, Non-Hispanic	29	4.0	0	0.0	0	0.0	0	0.0	29	3.9
Hispanic, Any Race	25	3.4	0	0.0	0	0.0	0	0.0	25	3.4
Other/Unknown	16	2.2	0	0.0	0	0.0	0	0.0	16	2.1
Region										
Central	209	28.5	3	27.3	0	0.0	0	0.0	212	28.4
Charlottesville	32	4.4	1	9.1	0	0.0	1	100.0	34	4.6
Far Southwest	51	7.0	0	0.0	0	0.0	0	0.0	51	6.8
Halifax/Lynchburg	40	5.5	2	18.2	0	0.0	0	0.0	42	5.6
Northern/Winchester	131	17.9	1	9.1	0	0.0	0	0.0	132	17.7
Roanoke/Alleghany	68	9.3	2	18.2	0	0.0	0	0.0	70	9.4
Tidewater	202	27.6	2	18.2	1	100.0	0	0.0	205	27.5
MCO										
Anthem	263	35.9	4	36.4	0	0.0	0	0.0	267	35.8
Coventry	39	5.3	0	0.0	0	0.0	0	0.0	39	5.2
INTotal	37	5.0	0	0.0	0	0.0	0	0.0	37	5
Kaiser Permanente	2	0.3	0	0.0	0	0.0	0	0.0	2	0.3
Optima	209	28.5	2	18.2	1	100.0	0	0.0	212	28.4
VA Premier	183	25.0	5	45.5	0	0.0	1	100.0	189	25.3

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

<sup>1</sup> No study members in the Day Support waiver program were identified as having a CAD diagnosis during Phase I.

**Table C-3—Distribution of Study Members With a Phase I Mental Health Diagnosis by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2014, With a Mental Health Diagnosis During Phase I	HAP Waiver Program										Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's			
	n	%	n	%	n	%	n	%	n	%	n	%
Total	17	100.0	4,550	100.0	582	100.0	41	100.0	1	100.0	5,191	100.0
Age Category												
17 Years and Younger	4	23.5	2,136	46.9	141	24.2	19	46.3	0	0.0	2,300	44.3
18 Through 34 Years	13	76.5	556	12.2	386	66.3	22	53.7	0	0.0	977	18.8
35 Through 64 Years	0	0.0	1,557	34.2	50	8.6	0	0.0	1	100.0	1,608	31.0
65 Years and Older	0	0.0	301	6.6	5	0.9	0	0.0	0	0.0	306	5.9
Sex Category												
Female	8	47.1	2,300	50.5	218	37.5	7	17.1	1	100.0	2,534	48.8
Male	9	52.9	2,250	49.5	364	62.5	34	82.9	0	0.0	2,657	51.2
Race Category												
White, Non-Hispanic	8	47.1	1,934	42.5	264	45.4	23	56.1	1	100.0	2,230	43.0
Black, Non-Hispanic	7	41.2	1,713	37.6	256	44.0	14	34.1	0	0.0	1,990	38.3
Asian, Non-Hispanic	0	0.0	133	2.9	20	3.4	0	0.0	0	0.0	153	2.9
Hispanic, Any Race	2	11.8	415	9.1	30	5.2	1	2.4	0	0.0	448	8.6
Other/Unknown	0	0.0	355	7.8	12	2.1	3	7.3	0	0.0	370	7.1
Region												
Central	3	17.6	1,141	25.1	202	34.7	10	24.4	0	0.0	1,356	26.1
Charlottesville	1	5.9	382	8.4	41	7.0	6	14.6	1	100.0	431	8.3
Far Southwest	2	11.8	221	4.9	16	2.7	0	0.0	0	0.0	239	4.6
Halifax/Lynchburg	2	11.8	304	6.7	36	6.2	6	14.6	0	0.0	348	6.7
Northern/Winchester	2	11.8	1,009	22.2	101	17.4	5	12.2	0	0.0	1,117	21.5
Roanoke/Alleghany	2	11.8	509	11.2	76	13.1	4	9.8	0	0.0	591	11.4
Tidewater	5	29.4	984	21.6	110	18.9	10	24.4	0	0.0	1,109	21.4
MCO												
Anthem	3	17.6	1,708	37.5	204	35.1	12	29.3	0	0.0	1,927	37.1
Coventry	1	5.9	201	4.4	27	4.6	3	7.3	0	0.0	232	4.5
INTotal	1	5.9	281	6.2	33	5.7	0	0.0	0	0.0	315	6.1
Kaiser Permanente	0	0.0	47	1.0	0	0.0	0	0.0	0	0.0	47	0.9
Optima	4	23.5	1,106	24.3	147	25.3	8	19.5	0	0.0	1,265	24.4
VA Premier	8	47.1	1,207	26.5	171	29.4	18	43.9	1	100.0	1,405	27.1

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.



## Medical Utilization Indicator Results by HAP Waiver Program

**Table C-4—Distribution of Study Members With at Least One Phase I Ambulatory Care Visit by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2014, With Any Ambulatory Care Visits During Phase I	HAP Waiver Program										Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's			
	n	%	n	%	n	%	n	%	n	%	n	%
Total	30	100.0	6,457	100.0	731	100.0	43	100.0	2	100.0	7,263	100.0
Age Category												
17 Years and Younger	3	10.0	2,475	38.3	157	21.5	15	34.9	0	0.0	2,650	36.5
18 Through 34 Years	24	80.0	922	14.3	498	68.1	27	62.8	0	0.0	1,471	20.3
35 Through 64 Years	3	10.0	2,477	38.4	69	9.4	1	2.3	1	50.0	2,551	35.1
65 Years and Older	0	0.0	583	9.0	7	1.0	0	0.0	1	50.0	591	8.1
Sex Category												
Female	15	50.0	3,405	52.7	291	39.8	6	14.0	2	100.0	3,719	51.2
Male	15	50.0	3,052	47.3	440	60.2	37	86.1	0	0.0	3,544	48.8
Race Category												
White, Non-Hispanic	15	50.0	2,555	39.6	330	45.1	24	55.8	2	100.0	2,926	40.3
Black, Non-Hispanic	13	43.3	2,681	41.5	316	43.2	15	34.9	0	0.0	3,025	41.6
Asian, Non-Hispanic	1	3.3	241	3.7	31	4.2	1	2.3	0	0.0	274	3.8
Hispanic, Any Race	1	3.3	552	8.5	39	5.3	1	2.3	0	0.0	593	8.2
Other/Unknown	0	0.0	428	6.6	15	2.1	2	4.7	0	0.0	445	6.1
Region												
Central	4	13.3	1,706	26.4	251	34.3	12	27.9	0	0.0	1,973	27.2
Charlottesville	1	3.3	501	7.8	52	7.1	4	9.3	1	50.0	559	7.7
Far Southwest	2	6.7	294	4.6	18	2.5	0	0.0	0	0.0	314	4.3
Halifax/Lynchburg	6	20.0	453	7.0	50	6.8	6	14.0	0	0.0	515	7.1
Northern/Winchester	4	13.3	1,417	22.0	131	17.9	5	11.6	0	0.0	1,557	21.4
Roanoke/Alleghany	3	10.0	681	10.5	89	12.2	5	11.6	1	50.0	779	10.7
Tidewater	10	33.3	1,405	21.8	140	19.2	11	25.6	0	0.0	1,566	21.6
MCO												
Anthem	6	20.0	2,376	36.8	258	35.3	12	27.9	0	0.0	2,652	36.5
Coventry	0	0.0	298	4.6	34	4.7	4	9.3	0	0.0	336	4.6
INTotal	3	10.0	419	6.5	39	5.3	0	0.0	0	0.0	461	6.3
Kaiser Permanente	0	0.0	67	1.0	0	0.0	0	0.0	0	0.0	67	0.9
Optima	10	33.3	1,588	24.6	185	25.3	9	20.9	0	0.0	1,792	24.7
VA Premier	11	36.7	1,709	26.5	215	29.4	18	41.9	2	100.0	1,955	26.9

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

**Table C-5—Distribution of Study Members With at Least One Phase I Ambulatory Care Visit With a PCP-Type Provider by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2014, With Any Ambulatory Care Visits With a PCP-Type Provider During Phase I	HAP Waiver Program										Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's			
	n	%	n	%	n	%	n	%	n	%	n	%
Total	26	100.0	6,264	100.0	690	100.0	41	100.0	2	100.0	7,023	100.0
Age Category												
17 Years and Younger	3	11.5	2,395	38.2	149	21.6	14	34.1	0	0.0	2,561	36.5
18 Through 34 Years	20	76.9	860	13.7	466	67.5	26	63.4	0	0.0	1,372	19.5
35 Through 64 Years	3	11.5	2,433	38.8	68	9.9	1	2.4	1	50.0	2,506	35.7
65 Years and Older	0	0.0	576	9.2	7	1.0	0	0.0	1	50.0	584	8.3
Sex Category												
Female	14	53.8	3,318	53.0	279	40.4	6	14.6	2	100.0	3,619	51.5
Male	12	46.2	2,946	47.0	411	59.6	35	85.4	0	0.0	3,404	48.5
Race Category												
White, Non-Hispanic	12	46.2	2,471	39.4	315	45.7	24	58.5	2	100.0	2,824	40.2
Black, Non-Hispanic	12	46.2	2,603	41.6	292	42.3	14	34.1	0	0.0	2,921	41.6
Asian, Non-Hispanic	1	3.8	236	3.8	31	4.5	1	2.4	0	0.0	269	3.8
Hispanic, Any Race	1	3.8	539	8.6	37	5.4	1	2.4	0	0.0	578	8.2
Other/Unknown	0	0.0	415	6.6	15	2.2	1	2.4	0	0.0	431	6.1
Region												
Central	3	11.5	1,649	26.3	234	33.9	10	24.4	0	0.0	1,896	27.0
Charlottesville	1	3.8	496	7.9	48	7.0	4	9.8	1	50.0	550	7.8
Far Southwest	2	7.7	292	4.7	18	2.6	0	0.0	0	0.0	312	4.4
Halifax/Lynchburg	5	19.2	445	7.1	48	7.0	6	14.6	0	0.0	504	7.2
Northern/Winchester	3	11.5	1,370	21.9	123	17.8	5	12.2	0	0.0	1,501	21.4
Roanoke/Alleghany	3	11.5	654	10.4	85	12.3	5	12.2	1	50.0	748	10.7
Tidewater	9	34.6	1,358	21.7	134	19.4	11	26.8	0	0.0	1,512	21.5
MCO												
Anthem	6	23.1	2,308	36.8	243	35.2	10	24.4	0	0.0	2,567	36.6
Coventry	0	0.0	294	4.7	34	4.9	4	9.8	0	0.0	332	4.7
INTotal	2	7.7	400	6.4	33	4.8	0	0.0	0	0.0	435	6.2
Kaiser Permanente	0	0.0	64	1.0	0	0.0	0	0.0	0	0.0	64	0.9
Optima	8	30.8	1,539	24.6	177	25.7	9	22.0	0	0.0	1,733	24.7
VA Premier	10	38.5	1,659	26.5	203	29.4	18	43.9	2	100.0	1,892	26.9

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

**Table C-6—Distribution of Study Members With at Least One Phase I Dental Visit by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2014, With Dental Utilization During Phase I	HAP Waiver Program <sup>1</sup>								Total	
	Day Support		EDCD		ID		IFDDS			
	n	%	n	%	n	%	n	%	n	%
Total	7	100.0	2,181	100.0	237	100.0	21	100.0	2,446	100.0
Age Category										
17 Years and Younger	3	42.9	1,603	73.5	104	43.9	13	61.9	1,723	70.4
18 Through 34 Years	3	42.9	229	10.5	128	54.0	8	38.1	368	15.0
35 Through 64 Years	1	14.3	310	14.2	5	2.1	0	0.0	316	13.0
65 Years and Older	0	0.0	39	1.8	0	0.0	0	0.0	39	1.6
Sex Category										
Female	5	71.4	928	42.5	86	36.3	2	9.5	1,021	41.7
Male	2	28.6	1,253	57.5	151	63.7	19	90.5	1,425	58.3
Race Category										
White, Non-Hispanic	5	71.4	848	38.9	106	44.7	11	52.4	970	39.7
Black, Non-Hispanic	2	28.6	769	35.3	98	41.4	7	33.3	876	35.8
Asian, Non-Hispanic	0	0.0	65	3.0	7	3.0	0	0.0	72	2.9
Hispanic, Any Race	0	0.0	300	13.8	18	7.6	1	4.8	319	13.0
Other/Unknown	0	0.0	199	9.1	8	3.4	2	9.5	209	8.5
Region										
Central	2	28.6	550	25.2	89	37.6	7	33.3	648	26.5
Charlottesville	0	0.0	194	8.9	15	6.3	1	4.8	210	8.6
Far Southwest	1	14.3	53	2.4	8	3.4	0	0.0	62	2.5
Halifax/Lynchburg	1	14.3	161	7.4	15	6.3	3	14.3	180	7.4
Northern/Winchester	1	14.3	582	26.7	35	14.8	3	14.3	621	25.4
Roanoke/Alleghany	2	28.63	212	9.7	42	17.7	2	9.5	258	10.5
Tidewater	0	0.0	429	19.7	33	13.9	5	23.8	467	19.1
MCO										
Anthem	0	0.0	855	39.2	79	33.3	8	38.1	942	38.5
Coventry	0	0.0	90	4.1	13	5.5	1	4.8	104	4.3
INTotal	1	14.3	134	6.1	10	4.2	0	0.0	145	5.9
Kaiser Permanente	0	0.0	29	1.3	0	0.0	0	0.0	29	1.2
Optima	2	28.6	509	23.3	55	23.2	4	19.0	570	23.3
VA Premier	4	54.1	564	25.9	80	33.8	8	38.1	656	26.8

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

<sup>1</sup> No study members in the Alzheimer's waiver program were identified as having a dental visit during Phase I.

**Table C-7—Distribution of Study Members With at Least One Phase I ED Visit by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2014, With ED Utilization During Phase I	HAP Waiver Program <sup>1</sup>								Total	
	Day Support		EDCD		ID		IFDDS			
	n	%	n	%	n	%	n	%	n	%
Total	6	100.0	3,599	100.0	269	100.0	12	100.0	3,886	100.0
Age Category										
17 Years and Younger	1	16.7	1,096	30.5	69	25.7	5	41.7	1,171	30.1
18 Through 34 Years	4	66.7	419	11.6	172	63.9	7	58.3	602	15.5
35 Through 64 Years	1	16.7	1,727	48.0	27	10.0	0	0.0	1,755	45.2
65 Years and Older	0	0.0	357	9.9	1	0.4	0	0.0	358	9.2
Sex Category										
Female	4	66.7	2,096	57.5	95	35.3	4	33.3	2,172	55.9
Male	2	33.3	1,530	42.5	174	64.7	8	66.7	1,714	44.1
Race Category										
White, Non-Hispanic	3	50.0	1,338	37.2	117	43.5	5	41.7	1,463	37.6
Black, Non-Hispanic	3	50.0	1,646	45.7	126	46.8	6	50.0	1,781	45.8
Asian, Non-Hispanic	0	0.0	120	3.3	9	3.3	0	0.0	129	3.3
Hispanic, Any Race	0	0.0	294	8.2	12	4.5	1	8.3	307	7.9
Other/Unknown	0	0.0	201	5.6	5	1.9	0	0.0	206	5.3
Region										
Central	3	50.0	972	27.0	113	42.0	4	33.3	1,092	28.1
Charlottesville	1	16.7	245	6.8	14	5.2	3	25.0	263	6.8
Far Southwest	0	0.0	191	5.3	6	2.2	0	0.0	197	5.1
Halifax/Lynchburg	1	16.7	250	6.9	12	4.5	2	16.7	265	6.8
Northern/Winchester	0	0.0	729	20.3	45	16.7	1	8.3	775	19.9
Roanoke/Alleghany	1	16.7	379	10.5	30	11.2	1	8.3	411	10.6
Tidewater	0	0.0	833	23.1	49	18.2	1	8.3	883	22.7
MCO										
Anthem	0	0.0	1,301	36.1	95	35.3	4	33.3	1,400	36.0
Coventry	0	0.0	162	4.5	13	4.8	1	8.3	176	4.5
INTotal	1	16.7	215	6.0	15	5.6	0	0.0	231	5.9
Kaiser Permanente	0	0.0	29	0.8	0	0.0	0	0.0	29	0.7
Optima	3	50.0	919	25.5	57	21.2	1	8.3	980	25.2
VA Premier	2	33.3	973	27.0	89	33.1	6	50.0	1,070	27.5

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

<sup>1</sup> No study members in the Alzheimer's waiver program were identified as having an ED visit during Phase I.

## Long-Term Services and Supports Indicator Results by HAP Waiver Program

**Table C-8—Distribution of Study Members With at Least One Phase I Long-Term Care Service Day by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2014, With at Least One Phase I LTC Service Day During Phase I	HAP Waiver Program										Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's			
	n	%	n	%	n	%	n	%	n	%	n	%
Total	40	100.0	6,335	100.0	745	100.0	45	100.0	2	100.0	7,167	100.0
Age Category												
17 Years and Younger	4	10.0	2,461	38.8	158	21.1	19	42.2	0	0.0	2,642	36.9
18 Through 34 Years	33	82.5	942	14.9	510	68.5	25	55.6	0	0.0	1,510	21.1
35 Through 64 Years	3	7.5	2,369	37.4	70	9.4	1	2.2	1	50.0	2,444	34.1
65 Years and Older	0	0.0	563	8.9	7	0.9	0	0.0	1	50.0	571	8.0
Sex Category												
Female	18	45.0	3,285	51.9	297	39.9	7	15.6	2	100.0	3,609	50.4
Male	22	55.0	3,050	48.1	448	60.1	38	84.4	0	0.0	3,558	49.6
Race Category												
White, Non-Hispanic	19	47.5	2,482	39.2	341	45.8	24	53.3	2	100.0	2,868	40.0
Black, Non-Hispanic	17	42.5	2,614	41.3	319	42.8	17	37.8	0	0.0	2,967	41.4
Asian, Non-Hispanic	2	5.0	243	3.8	31	4.2	1	2.2	0	0.0	277	3.9
Hispanic, Any Race	2	5.0	523	8.3	37	5.0	1	2.2	0	0.0	563	7.9
Other/Unknown	0	0.0	473	7.5	17	2.3	2	4.4	0	0.0	492	6.9
Region												
Central	7	17.5	1,643	25.9	255	34.2	12	26.7	0	0.0	1,917	26.7
Charlottesville	2	5.0	489	7.7	52	7.0	5	11.1	1	50.0	549	7.7
Far Southwest	2	5.0	278	4.4	19	2.6	0	0.0	0	0.0	299	4.2
Halifax/Lynchburg	8	20.0	427	6.7	51	6.8	7	15.6	0	0.0	493	6.9
Northern/Winchester	6	15.0	1,450	22.9	141	18.9	5	11.1	0	0.0	1,602	22.4
Roanoke/Alleghany	3	7.5	653	10.3	89	11.9	4	8.9	1	50.0	750	10.5
Tidewater	12	30.0	1,395	22.0	138	18.5	12	26.7	0	0.0	1,557	21.7
MCO												
Anthem	9	22.5	2,356	37.2	267	35.8	13	28.9	0	0.0	2,645	36.9
Coventry	1	2.5	282	4.5	34	4.6	4	8.9	0	0.0	321	4.5
INTotal	3	7.5	430	6.8	42	5.6	0	0.0	0	0.0	475	6.6
Kaiser Permanente	0	0.0	80	1.3	0	0.0	0	0.0	0	0.0	80	1.1
Optima	15	37.5	1,523	24.0	185	24.8	10	22.2	0	0.0	1,733	24.2
VA Premier	12	30.0	1,664	26.3	217	29.1	18	40.0	2	100.0	1,913	26.7

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

## Pharmacy Utilization Indicator Results by HAP Waiver Program

**Table C-9—Distribution of Study Members With at Least One Phase I Long-Term Care Service Day by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2014, With Any Prescription Medication During Phase I	HAP Waiver Program										Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's			
	n	%	n	%	n	%	n	%	n	%	n	%
Total	26	100.0	6,285	100.0	706	100.0	44	100.0	2	100.0	7,063	100.0
Age Category												
17 Years and Younger	3	11.5	2,324	37.0	148	21.0	16	36.4	0	0.0	2,491	35.3
18 Through 34 Years	22	84.6	892	14.2	483	68.4	27	61.4	0	0.0	1,424	20.2
35 Through 64 Years	1	3.9	2,484	39.5	68	9.6	1	2.3	1	50.0	2,555	36.2
65 Years and Older	0	0.0	585	9.3	7	1.0	0	0.0	1	50.0	593	8.4
Sex Category												
Female	16	61.5	3,339	53.1	278	39.4	7	15.9	2	100.0	3,364	47.6
Male	10	38.5	2,946	46.9	428	60.6	37	84.1	0	0.0	3,421	48.4
Race Category												
White, Non-Hispanic	14	53.8	2,493	39.7	320	45.3	24	54.5	2	100.0	2,853	40.4
Black, Non-Hispanic	10	38.5	2,616	41.6	304	43.1	17	38.6	0	0.0	2,947	41.7
Asian, Non-Hispanic	1	3.8	239	3.8	28	4.0	1	2.3	0	0.0	269	3.8
Hispanic, Any Race	1	3.8	536	8.5	38	5.4	0	0.0	0	0.0	575	8.1
Other/Unknown	0	0.0	401	6.4	16	2.3	2	4.5	0	0.0	419	5.9
Region												
Central	5	19.2	1,662	26.4	242	34.3	12	27.3	0	0.0	1,921	27.2
Charlottesville	1	3.8	482	7.7	47	6.7	3	6.8	1	50.0	534	7.6
Far Southwest	2	7.7	294	4.7	19	2.7	0	0.0	0	0.0	315	4.5
Halifax/Lynchburg	6	23.1	431	6.9	48	6.8	7	15.9	0	0.0	492	7.0
Northern/Winchester	4	15.4	1,378	21.9	130	18.4	5	11.4	0	0.0	1,517	21.5
Roanoke/Alleghany	3	11.5	676	10.8	87	12.3	5	11.4	1	50.0	772	10.9
Tidewater	5	19.2	1,362	21.7	133	18.8	12	27.3	0	0.0	1,512	21.4
MCO												
Anthem	3	11.5	2,336	37.2	258	36.5	12	27.3	0	0.0	2,609	36.9
Coventry	0	0.0	289	4.6	32	4.5	4	9.1	0	0.0	325	4.6
INTotal	2	7.7	403	6.4	39	5.5	0	0.0	0	0.0	444	6.3
Kaiser Permanente	0	0.0	62	1.0	0	0.0	0	0.0	0	0.0	62	0.9
Optima	10	38.5	1,520	24.2	170	24.1	10	22.7	0	0.0	1,710	24.2
VA Premier	11	42.3	1,675	26.7	207	29.3	18	40.9	2	100.0	1,913	27.1

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

**Table C-10—Distribution of Study Members With ADD/ADHD Prescription Utilization During Phase I by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2014, With ADD/ADHD Prescriptions During Phase I	HAP Waiver Program1								Total	
	Day Support		EDCD		ID		IFDDS			
	n	%	n	%	n	%	n	%	n	%
Total	7	100.0	1,231	100.0	191	100.0	15	100.0	1,444	100.0
Age Category										
17 Years and Younger	1	14.3	786	63.9	72	37.7	6	40.0	865	59.9
18 Through 34 Years	6	85.7	134	10.9	118	61.8	9	60.0	267	18.5
35 Through 64 Years	0	0.0	273	22.2	1	0.5	0	0.0	274	19.0
65 Years and Older	0	0.0	38	3.1	0	0.0	0	0.0	38	2.6
Sex Category										
Female	4	57.1	472	38.3	52	27.2	2	13.3	530	36.7
Male	3	42.9	759	61.7	139	72.8	13	86.7	914	63.3
Race Category										
White, Non-Hispanic	2	28.6	531	43.1	98	51.3	11	73.3	642	44.5
Black, Non-Hispanic	3	42.9	485	39.4	76	39.8	2	13.3	566	39.2
Asian, Non-Hispanic	1	14.3	13	1.1	4	2.1	0	0.0	18	1.2
Hispanic, Any Race	1	14.3	106	8.6	9	4.7	0	0.0	116	8.0
Other/Unknown	0	0.0	96	7.8	4	2.1	2	13.3	102	7.1
Region										
Central	0	0.0	352	28.6	69	36.1	5	33.3	426	29.5
Charlottesville	1	14.3	85	6.9	12	6.3	1	6.7	99	6.9
Far Southwest	2	28.6	29	2.4	5	2.6	0	0.0	36	2.5
Halifax/Lynchburg	0	0.0	76	6.2	6	3.1	2	13.3	84	5.8
Northern/Winchester	1	14.3	236	19.2	27	14.1	2	13.3	266	18.4
Roanoke/Alleghany	0	0.0	150	12.2	36	18.8	2	13.3	188	13.0
Tidewater	3	42.9	303	24.6	36	18.8	3	20.0	345	23.9
MCO										
Anthem	3	42.9	460	37.4	73	38.2	4	26.7	540	37.4
Coventry	0	0.0	50	4.1	6	3.1	1	6.7	57	3.9
INTotal	0	0.0	49	4.0	8	4.2	0	0.0	57	3.9
Kaiser Permanente	0	0.0	9	0.7	0	0.0	0	0.0	9	0.6
Optima	2	28.6	306	24.9	42	22.0	4	26.7	354	24.5
VA Premier	2	28.6	357	29.0	62	32.5	6	40.0	427	29.6



**Table C-11—Distribution of Study Members With Antibiotics Prescription Utilization During Phase I by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2014, With Antibiotic Prescriptions During Phase I	HAP Waiver Program										Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's			
	n	%	n	%	n	%	n	%	n	%	n	%
Total	12	100.0	3,966	100.0	340	100.0	17	100.0	2	100.0	4,337	100.0
Age Category												
17 Years and Younger	2	16.7	1,426	36.0	89	26.2	4	23.5	0	0.0	1,521	35.1
18 Through 34 Years	9	75.0	493	12.4	221	65.0	13	76.5	0	0.0	736	17.0
35 Through 64 Years	1	8.3	1,701	42.9	28	8.2	0	0.0	1	50.0	1,731	39.9
65 Years and Older	0	0.0	346	8.7	2	0.6	0	0.0	1	50.0	349	8.0
Sex Category												
Female	8	66.7	2,246	56.6	138	40.6	3	17.6	2	100.0	2,397	55.3
Male	4	33.3	1,720	43.4	202	59.4	14	82.4	0	0.0	1,940	44.7
Race Category												
White, Non-Hispanic	9	75.0	1,734	43.7	174	51.2	11	64.7	2	100.0	1,930	44.5
Black, Non-Hispanic	3	25.0	1,499	37.8	128	37.6	6	35.3	0	0.0	1,636	37.7
Asian, Non-Hispanic	0	0.0	141	3.6	11	3.2	0	0.0	0	0.0	152	3.5
Hispanic, Any Race	0	0.0	353	8.9	19	5.6	0	0.0	0	0.0	372	8.6
Other/Unknown	0	0.0	239	6.0	8	2.4	0	0.0	0	0.0	247	5.7
Region												
Central	4	33.3	1,063	26.8	123	36.2	1	5.9	0	0.0	1,191	27.5
Charlottesville	1	8.3	279	7.0	26	7.6	1	5.9	1	50.0	308	7.1
Far Southwest	2	16.7	245	6.2	9	2.6	0	0.0	0	0.0	256	5.9
Halifax/Lynchburg	2	16.7	245	6.2	24	7.1	2	11.8	0	0.0	273	6.3
Northern/Winchester	1	8.3	922	23.2	63	18.5	4	23.5	0	0.0	990	22.8
Roanoke/Alleghany	1	8.3	462	11.6	46	13.5	2	11.8	1	50.0	512	11.8
Tidewater	1	8.3	750	18.9	49	14.4	7	41.2	0	0.0	807	18.6
MCO												
Anthem	1	8.3	1,547	39.0	127	37.4	6	35.3	0	0.0	1,681	38.8
Coventry	0	0.0	183	4.6	18	5.3	0	0.0	0	0.0	201	4.6
INTotal	2	16.7	255	6.4	20	5.9	0	0.0	0	0.0	277	6.4
Kaiser Permanente	0	0.0	36	0.9	0	0.0	0	0.0	0	0.0	36	0.8
Optima	4	33.3	850	21.4	57	16.8	4	23.5	0	0.0	915	21.1
VA Premier	5	41.7	1,095	27.6	118	34.7	7	41.2	2	100.0	1,227	28.3

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

**Table C-12—Distribution of Study Members With Antipsychotic Prescription Utilization During Phase I by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2014, With Antipsychotic Prescriptions During Phase I	HAP Waiver Program										Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's			
	n	%	n	%	n	%	n	%	n	%	n	%
Total	9	100.0	1,241	100.0	340	100.0	19	100.0	2	100.0	1,611	100.0
Age Category												
17 Years and Younger	2	22.2	393	31.7	50	14.7	3	15.8	0	0.0	448	27.8
18 Through 34 Years	7	77.8	199	16.0	251	73.8	16	84.2	0	0.0	473	29.4
35 Through 64 Years	0	0.0	563	45.4	35	10.3	0	0.0	1	50.0	599	37.2
65 Years and Older	0	0.0	86	6.9	4	1.2	0	0.0	1	50.0	91	5.6
Sex Category												
Female	5	55.6	649	52.3	113	33.2	3	15.8	2	100.0	772	47.9
Male	4	44.4	592	47.7	227	66.8	16	84.2	0	0.0	839	52.1
Race Category												
White, Non-Hispanic	2	22.2	560	45.1	150	44.1	13	68.4	2	100.0	727	45.1
Black, Non-Hispanic	6	66.7	527	42.5	153	45.0	5	26.3	0	0.0	691	42.9
Asian, Non-Hispanic	0	0.0	22	1.8	12	3.5	0	0.0	0	0.0	34	2.1
Hispanic, Any Race	1	11.1	74	6.0	19	5.6	0	0.0	0	0.0	94	5.8
Other/Unknown	0	0.0	58	4.7	6	1.8	1	5.3	0	0.0	65	4.0
Region												
Central	1	11.1	354	28.5	122	35.9	4	21.1	0	0.0	481	29.9
Charlottesville	0	0.0	93	7.5	12	3.5	1	5.3	1	50.0	107	6.6
Far Southwest	0	0.0	50	4.0	9	2.6	0	0.0	0	0.0	59	3.7
Halifax/Lynchburg	2	22.2	92	7.4	19	5.6	1	5.3	0	0.0	114	7.1
Northern/Winchester	0	0.0	221	17.8	58	17.1	4	21.1	0	0.0	283	17.6
Roanoke/Alleghany	2	22.2	152	12.2	44	12.9	2	10.5	1	50.0	201	12.5
Tidewater	4	44.4	279	22.5	76	22.4	7	36.8	0	0.0	366	22.7
MCO												
Anthem	1	11.1	446	35.9	125	36.8	9	47.4	0	0.0	581	36.1
Coventry	0	0.0	58	4.7	17	5.0	1	5.3	0	0.0	76	4.7
INTotal	1	11.1	64	5.2	18	5.3	0	0.0	0	0.0	83	5.2
Kaiser Permanente	0	0.0	14	1.1	0	0.0	0	0.0	0	0.0	14	0.9
Optima	3	33.3	297	23.9	79	23.2	4	21.1	0	0.0	383	23.8
VA Premier	4	44.4	362	29.2	101	29.7	5	26.3	2	100.0	474	29.4

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

**Table C-13—Distribution of Study Members With Opiate Prescription Utilization During Phase I by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2014, With Opiate Prescriptions During Phase I	HAP Waiver Program <sup>1</sup>								Total	
	Day Support		EDCD		ID		IFDDS			
	n	%	n	%	n	%	n	%	n	%
Total	1	100.0	2,510	100.0	99	100.0	7	100.0	2,617	100
Age Category										
17 Years and Younger	0	0.0	166	6.6	11	11.1	3	42.9	180	6.9
18 Through 34 Years	1	100.0	297	11.8	78	78.8	4	57.1	380	14.5
35 Through 64 Years	0	0.0	1,750	69.7	10	10.1	0	0.0	1,760	67.3
65 Years and Older	0	0.0	297	11.8	0	0.0	0	0.0	297	11.3
Sex Category										
Female	0	0.0	1,665	66.3	41	41.4	1	14.3	1,707	65.2
Male	1	100.0	845	33.7	58	58.6	6	85.7	910	34.8
Race Category										
White, Non-Hispanic	0	0.0	1,026	40.9	51	51.5	5	71.4	1,082	41.3
Black, Non-Hispanic	1	100.0	1,249	49.8	40	40.4	2	28.6	1,292	49.4
Asian, Non-Hispanic	0	0.0	60	2.4	2	2.0	0	0.0	62	2.4
Hispanic, Any Race	0	0.0	105	4.2	5	5.1	0	0.0	110	4.2
Other/Unknown	0	0.0	70	2.8	1	1.0	0	0.0	71	2.7
Region										
Central	0	0.0	715	28.5	36	36.4	2	28.6	753	28.8
Charlottesville	1	100.0	140	5.6	7	7.1	0	0.0	148	5.7
Far Southwest	0	0.0	176	7.0	3	3.0	0	0.0	179	6.8
Halifax/Lynchburg	0	0.0	166	6.6	5	5.1	1	14.3	172	6.6
Northern/Winchester	0	0.0	384	15.3	23	23.2	2	29.6	409	15.6
Roanoke/Alleghany	0	0.0	330	13.1	14	14.1	1	14.3	345	13.2
Tidewater	0	0.0	599	23.9	11	11.1	1	14.3	611	23.3
MCO										
Anthem	0	0.0	888	35.4	37	37.4	3	42.9	928	35.5
Coventry	0	0.0	121	4.8	4	4.0	0	0.0	125	4.8
INTotal	0	0.0	132	5.3	7	7.1	0	0.0	139	5.3
Kaiser Permanente	0	0.0	16	0.6	0	0.0	0	0.0	16	0.6
Optima	1	100.0	591	23.5	11	11.1	0	0.0	603	23.0
VA Premier	0	0.0	762	30.4	40	40.4	4	57.1	806	30.8

<sup>1</sup> No study members in the Alzheimer's waiver program were identified as having an opiate prescription during Phase I.

## Appendix D. Phase II Detailed Findings by Waiver Program

### Clinical Indicator Results by HAP Waiver Program

**Table D-1—Distribution of Study Members With Diabetes During Phase II by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2015, With Diabetes During Phase II	HAP Waiver Program													
	EDCD		ID		IFDDS		Alzheimer's		No Waiver		No Medicaid		Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Total	1,108	100.0	52	100.0	3	100.0	1	100.0	127	100.0	29	100.0	1,320	100.0
Age Category														
17 Years and Younger	20	1.8	5	9.6	0	0.0	0	0.0	1	0.8	0	0.0	26	2.0
18 Through 34 Years	49	4.4	24	46.2	3	100.0	0	0.0	4	3.1	2	6.9	82	6.2
35 Through 64 Years	803	72.5	19	36.5	0	0.0	0	0.0	87	68.5	23	79.3	932	70.6
65 Years and Older	236	21.3	4	7.7	0	0.0	1	100.0	35	27.6	4	13.8	280	21.2
Sex Category														
Female	827	74.6	28	53.8	0	0.0	1	100.0	82	64.6	22	75.9	960	72.7
Male	281	25.4	24	46.2	3	100.0	0	0.0	45	35.4	7	24.1	360	27.3
Race Category														
White, Non-Hispanic	342	30.9	20	38.5	2	66.7	0	0.0	42	33.1	5	17.2	411	31.1
Black, Non-Hispanic	554	50.0	19	36.5	1	33.3	0	0.0	56	44.1	18	62.1	648	49.1
Asian, Non-Hispanic	42	3.8	7	13.5	0	0.0	0	0.0	2	1.6	2	6.9	53	4.0
Hispanic, Any Race	145	13.1	5	9.6	0	0.0	1	100.0	19	15.0	4	13.8	174	13.2
Other/Unknown	25	2.3	1	1.9	0	0.0	0	0.0	8	6.3	0	0.0	34	2.6
Region														
Central	297	26.8	15	28.8	0	0.0	0	0.0	43	33.9	0	0.0	355	26.9
Charlottesville	67	6.0	5	9.6	0	0.0	0	0.0	6	4.7	0	0.0	78	5.9
Far Southwest	65	5.9	2	3.8	0	0.0	0	0.0	8	6.3	0	0.0	75	5.7
Halifax/Lynchburg	92	8.3	4	7.7	0	0.0	0	0.0	17	13.4	0	0.0	113	8.6
Northern/Winchester	184	16.6	12	23.1	1	33.3	0	0.0	25	19.7	0	0.0	222	16.8
Roanoke/Alleghany	118	10.6	6	11.5	0	0.0	1	100.0	11	8.7	0	0.0	136	10.3
Tidewater	285	25.7	8	15.4	2	66.7	0	0.0	17	13.4	0	0.0	312	23.6
Missing/Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	29	100.0	29	2.2
MCO														
Anthem	371	33.5	21	40.4	1	33.3	0	0.0	6	4.7	0	0.0	399	30.2
Coventry	41	3.7	5	9.6	0	0.0	0	0.0	0	0.0	0	0.0	46	3.5
INTotal	60	5.4	3	5.8	0	0.0	0	0.0	0	0.0	0	0.0	63	4.8
Kaiser Permanente	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.2

Demographic Category as of December 1, 2015, With Diabetes During Phase II	HAP Waiver Program													
	EDCD		ID		IFDDS		Alzheimer's		No Waiver		No Medicaid		Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Optima	315	28.4	11	21.2	0	0.0	0	0.0	2	1.6	0	0.0	328	24.8
VA Premier	319	28.8	12	23.1	2	66.7	1	100.0	6	4.7	0	0.0	340	25.8
FFS	0	0.0	0	0.0	0	0.0	0	0.0	97	76.4	0	0.0	97	7.3
MCO Unknown	0	0.0	0	0.0	0	0.0	0	0.0	16	12.6	29	100.0	45	3.4

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

**Table D-2—Distribution of Study Members With CAD During Phase II by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2015, With a CAD During Phase II	HAP Waiver Program										Total	
	EDCD		ID		IFDDS		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%
Total	548	100.0	7	100.0	1	100.0	73	100.0	12	100.0	641	100.0
Age Category												
17 Years and Younger	7	1.3	1	14.3	0	0.0	0	0.0	0	0.0	8	1.2
18 Through 34 Years	13	2.4	1	14.3	1	100.0	2	2.7	0	0.0	17	2.7
35 Through 64 Years	415	75.7	5	71.4	0	0.0	43	58.9	9	75.0	472	73.6
65 Years and Older	113	20.6	0	0.0	0	0.0	28	38.4	3	25.0	144	22.5
Sex Category												
Female	396	72.3	5	71.4	0	0.0	52	71.2	6	50.0	459	71.6
Male	152	27.7	2	28.6	1	100.0	21	28.8	6	50.0	182	28.4
Race Category												
White, Non-Hispanic	196	35.8	6	85.7	1	100.0	28	38.4	3	25.0	234	36.5
Black, Non-Hispanic	261	47.6	1	14.3	0	0.0	31	42.5	8	66.7	301	47.0
Asian, Non-Hispanic	18	3.3	0	0.0	0	0.0	2	2.7	1	8.3	21	3.3
Hispanic, Any Race	63	11.5	0	0.0	0	0.0	9	12.3	0	0.0	72	11.2
Other/Unknown	10	1.8	0	0.0	0	0.0	3	4.1	0	0.0	13	2.0
Region												
Central	148	27.0	3	42.9	0	0.0	27	37.0	0	0.0	178	27.8
Charlottesville	24	4.4	1	14.3	0	0.0	3	4.1	0	0.0	28	4.4
Far Southwest	46	8.4	2	28.6	0	0.0	6	8.2	0	0.0	54	8.4
Halifax/Lynchburg	36	6.6	0	0.0	0	0.0	6	8.2	0	0.0	42	6.6
Northern/Winchester	99	18.1	0	0.0	0	0.0	9	12.3	0	0.0	108	16.8
Roanoke/Alleghany	48	8.8	1	14.3	0	0.0	8	11.0	0	0.0	57	8.9
Tidewater	147	26.8	0	0.0	1	100.0	14	19.2	0	0.0	162	25.3
Missing/Unknown	0	0.0	0	0.0	0	0.0	0	0.0	12	100.0	12	1.9

Demographic Category as of December 1, 2015, With a CAD During Phase II	HAP Waiver Program										Total	
	EDCD		ID		IFDDS		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%
MCO												
Anthem	193	35.2	2	28.6	0	0.0	3	4.1	0	0.0	198	30.9
Coventry	26	4.7	0	0.0	0	0.0	1	1.4	0	0.0	27	4.2
INTotal	31	5.7	0	0.0	0	0.0	0	0.0	0	0.0	31	4.8
Optima	160	29.2	1	14.3	1	100.0	2	2.7	0	0.0	164	25.6
VA Premier	138	25.2	4	57.1	0	0.0	5	6.8	0	0.0	147	22.9
FFS	0	0.0	0	0.0	0	0.0	54	74.0	0	0.0	54	8.4
MCO Unknown	0	0.0	0	0.0	0	0.0	8	11.0	12	100.0	20	3.1

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

**Table D-3—Distribution of Study Members With a Mental Health Diagnosis During Phase II by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2015, With a Mental Health Diagnosis During Phase II	HAP Waiver Program												Total	
	Day Support		EDCD		ID		IFDDS		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Total	15	100.0	3,838	100.0	573	100.0	42	100.0	438	100.0	115	100.0	5,021	100.0
Age Category														
17 Years and Younger	4	26.7	1,875	48.9	145	25.3	19	45.2	162	37.0	54	47.0	2,259	45.0
18 Through 34 Years	11	73.3	507	13.2	372	64.9	23	54.8	83	19.0	25	21.7	1,021	20.3
35 Through 64 Years	0	0.0	1,186	30.9	47	8.2	0	0.0	144	32.9	31	27.0	1,408	28.0
65 Years and Older	0	0.0	270	7.0	9	1.6	0	0.0	49	11.2	5	4.3	333	6.6
Sex Category														
Female	7	46.7	1,931	50.3	213	37.2	7	16.7	188	42.9	51	44.3	2,397	47.7
Male	8	53.3	1,907	49.7	360	62.8	35	83.3	250	57.1	64	55.7	2,624	52.3
Race Category														
White, Non-Hispanic	6	40.0	1,386	36.1	227	39.6	23	54.8	182	41.6	40	34.8	1,864	37.1
Black, Non-Hispanic	5	33.3	1,242	32.4	219	38.2	12	28.6	121	27.6	35	30.4	1,634	32.5
Asian, Non-Hispanic	0	0.0	117	3.0	21	3.7	0	0.0	7	1.6	3	2.6	148	2.9
Hispanic, Any Race	4	26.7	828	21.6	95	16.6	5	11.9	77	17.6	25	21.7	1,034	20.6
Other/Unknown	0	0.0	265	6.9	11	1.9	2	4.8	51	11.6	12	10.4	341	6.8

Demographic Category as of December 1, 2015, With a Mental Health Diagnosis During Phase II	HAP Waiver Program												Total	
	Day Support		EDCD		ID		IFDDS		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Region														
Central	2	13.3	974	25.4	203	35.4	9	21.4	111	25.3	0	0.0	1,299	25.9
Charlottesville	0	0.0	329	8.6	43	7.5	5	11.9	33	7.5	0	0.0	410	8.2
Far Southwest	2	13.3	156	4.1	18	3.1	0	0.0	23	5.3	0	0.0	199	4.0
Halifax/Lynchburg	2	13.3	260	6.8	39	6.8	8	19.0	32	7.3	0	0.0	341	6.8
Northern/Winchester	1	6.7	903	23.5	90	15.7	5	11.9	103	23.5	0	0.0	1,102	21.9
Roanoke/Alleghany	2	13.3	416	10.8	71	12.4	4	9.5	44	10.0	0	0.0	537	10.7
Tidewater	6	40.0	800	20.8	109	19.0	11	26.2	92	21.0	0	0.0	1,018	20.3
Missing/Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	115	100.0	115	2.3
MCO														
Anthem	4	26.7	1,514	39.4	206	36.0	10	23.8	25	5.7	0	0.0	1,759	35.0
Coventry	1	6.7	165	4.3	26	4.5	3	7.1	2	0.5	0	0.0	197	3.9
INTotal	1	6.7	223	5.8	25	4.4	0	0.0	1	0.2	0	0.0	250	5.0
Kaiser Permanente	0	0.0	23	0.6	0	0.0	0	0.0	0	0.0	0	0.0	23	0.5
Optima	3	20.0	913	23.8	149	26.0	10	23.8	8	1.8	0	0.0	1,083	21.6
VA Premier	6	40.0	1,000	26.1	167	29.1	19	45.2	24	5.5	0	0.0	1,216	24.2
FFS	0	0.0	0	0.0	0	0.0	0	0.0	337	76.9	0	0.0	337	6.7
MCO Unknown	0	0.0	0	0.0	0	0.0	0	0.0	41	9.4	115	100.0	156	3.1

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.



## Medical Utilization Indicator Results by HAP Waiver Program

**Table D-4—Distribution of Study Members With at Least One Phase II Ambulatory Care Visit by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2015, With Any Ambulatory Care Visits During Phase II	HAP Waiver Program														Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer’s		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Total	29	100.0	5,353	100.0	709	100.0	49	100.0	1	100.0	599	100.0	164	100.0	6,904	100.0
Age Category																
17 Years and Younger	3	10.3	2,094	39.1	158	22.3	18	36.7	0	0.0	167	27.9	64	39.0	2,504	36.3
18 Through 34 Years	20	69.0	825	15.4	473	66.7	28	57.1	0	0.0	122	20.4	30	18.3	1,498	21.7
35 Through 64 Years	6	20.7	1,932	36.1	68	9.6	3	6.1	0	0.0	223	37.2	58	35.4	2,290	33.2
65 Years and Older	0	0.0	502	9.4	10	1.4	0	0.0	1	100.0	87	14.5	12	7.3	612	8.9
Sex Category																
Female	14	48.3	2,848	53.2	283	39.9	8	16.3	1	100.0	280	46.7	79	48.2	3,513	50.9
Male	15	51.7	2,505	46.8	426	60.1	41	83.7	0	0.0	319	53.3	85	51.8	3,391	49.1
Race Category																
White, Non-Hispanic	14	48.3	1,833	34.2	281	39.6	26	53.1	0	0.0	236	39.4	54	32.9	2,444	35.4
Black, Non-Hispanic	10	34.5	1,928	36.0	266	37.5	14	28.6	0	0.0	197	32.9	56	34.1	2,471	35.8
Asian, Non-Hispanic	0	0.0	190	3.5	31	4.4	1	2.0	0	0.0	12	2.0	9	5.5	243	3.5
Hispanic, Any Race	5	17.2	1,093	20.4	117	16.5	7	14.3	1	100.0	92	15.4	33	20.1	1,348	19.5
Other/Unknown	0	0.0	309	5.8	14	2.0	1	2.0	0	0.0	62	10.4	12	7.3	398	5.8
Region																
Central	5	17.2	1,401	26.2	251	35.4	11	22.4	0	0.0	168	28.0	0	0.0	1,836	26.6
Charlottesville	0	0.0	432	8.1	51	7.2	5	10.2	0	0.0	41	6.8	0	0.0	529	7.7
Far Southwest	2	6.9	221	4.1	20	2.8	0	0.0	0	0.0	35	5.8	0	0.0	278	4.0
Halifax/Lynchburg	6	20.7	375	7.0	55	7.8	9	18.4	0	0.0	41	6.8	0	0.0	486	7.0

Demographic Category as of December 1, 2015, With Any Ambulatory Care Visits During Phase II	HAP Waiver Program														Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer’s		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Northern/Winchester	2	6.9	1,191	22.2	113	15.9	5	10.2	0	0.0	133	22.2	0	0.0	1,444	20.9
Roanoke/Alleghany	3	10.3	571	10.7	89	12.6	7	14.3	1	100.0	58	9.7	0	0.0	729	10.6
Tidewater	11	37.9	1,162	21.7	130	18.3	12	24.5	0	0.0	123	20.5	0	0.0	1,438	20.8
Missing/Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	164	100.0	164	2.4
MCO																
Anthem	8	27.6	2,026	37.8	248	35.0	10	20.4	0	0.0	28	4.7	0	0.0	2,320	33.6
Coventry	0	0.0	233	4.4	34	4.8	4	8.2	0	0.0	2	0.3	0	0.0	273	4.0
INTotal	2	6.9	302	5.6	34	4.8	0	0.0	0	0.0	3	0.5	0	0.0	341	4.9
Kaiser Permanente	0	0.0	31	0.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	31	0.4
Optima	9	31.0	1,310	24.5	183	25.8	12	24.5	0	0.0	13	2.2	0	0.0	1,527	22.1
VA Premier	10	34.5	1,451	27.1	210	29.6	23	46.9	1	100.0	23	3.8	0	0.0	1,718	24.9
FFS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	458	76.5	0	0.0	458	6.6
MCO Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	72	12.0	164	100.0	236	3.4

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

**Table D-5—Distribution of Study Members With at Least One Phase II Ambulatory Care Visits With a PCP-Type Provider by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2015, With Any Ambulatory Care Visits With a PCP-Type Provider During Phase II	HAP Waiver Program														Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Total	26	100.0	5,183	100.0	665	100.0	49	100.0	1	100.0	564	100.0	147	100.0	6,635	100.0
Age Category																
17 Years and Younger	3	11.5	2,042	39.4	153	23.0	18	36.7	0	0.0	157	27.8	58	39.5	2,431	36.6
18 Through 34 Years	17	65.4	751	14.5	436	65.6	28	57.1	0	0.0	108	19.1	25	17.0	1,365	20.6
35 Through 64 Years	6	23.1	1,894	36.5	66	9.9	3	6.1	0	0.0	213	37.8	53	36.1	2,235	33.7
65 Years and Older	0	0.0	496	9.6	10	1.5	0	0.0	1	100.0	86	15.2	11	7.5	604	9.1
Sex Category																
Female	13	50.0	2,777	53.6	270	40.6	8	16.3	1	100.0	266	47.2	74	50.3	3,409	51.4
Male	13	50.0	2,406	46.4	395	59.4	41	83.7	0	0.0	298	52.8	73	49.7	3,226	48.6
Race Category																
White, Non-Hispanic	11	42.3	1,762	34.0	265	39.8	26	53.1	0	0.0	223	39.5	45	30.6	2,332	35.1
Black, Non-Hispanic	10	38.5	1,862	35.9	245	36.8	14	28.6	0	0.0	185	32.8	50	34.0	2,366	35.7
Asian, Non-Hispanic	0	0.0	186	3.6	29	4.4	1	2.0	0	0.0	12	2.1	9	6.1	237	3.6
Hispanic, Any Race	5	19.2	1,073	20.7	112	16.8	7	14.3	1	100.0	88	15.6	32	21.8	1,318	19.9
Other/Unknown	0	0.0	300	5.8	14	2.1	1	2.0	0	0.0	56	9.9	11	7.5	382	5.8
Region																
Central	5	19.2	1,350	26.0	229	34.4	11	22.4	0	0.0	164	29.1	0	0.0	1,759	26.5
Charlottesville	0	0.0	421	8.1	48	7.2	5	10.2	0	0.0	41	7.3	0	0.0	515	7.8
Far Southwest	2	7.7	220	4.2	20	3.0	0	0.0	0	0.0	32	5.7	0	0.0	274	4.1
Halifax/Lynchburg	5	19.2	362	7.0	51	7.7	9	18.4	0	0.0	37	6.6	0	0.0	464	7.0
Northern/Winchester	1	3.8	1,155	22.3	106	15.9	5	10.2	0	0.0	122	21.6	0	0.0	1,389	20.9
Roanoke/Alleghany	3	11.5	553	10.7	84	12.6	7	14.3	1	100.0	53	9.4	0	0.0	701	10.6

Demographic Category as of December 1, 2015, With Any Ambulatory Care Visits With a PCP-Type Provider During Phase II	HAP Waiver Program														Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Tidewater	10	38.5	1,122	21.6	127	19.1	12	24.5	0	0.0	115	20.4	0	0.0	1,386	20.9
Missing/Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	147	100.0	147	2.2
MCO																
Anthem	8	30.8	1,963	37.9	235	35.3	10	20.4	0	0.0	27	4.8	0	0.0	2,243	33.8
Coventry	0	0.0	233	4.5	34	5.1	4	8.2	0	0.0	2	0.4	0	0.0	273	4.1
INTotal	2	7.7	289	5.6	28	4.2	0	0.0	0	0.0	3	0.5	0	0.0	322	4.9
Kaiser Permanente	0	0.0	31	0.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	31	0.5
Optima	8	30.8	1,256	24.2	171	25.7	12	24.5	0	0.0	12	2.1	0	0.0	1,459	22.0
VA Premier	8	30.8	1,411	27.2	197	29.6	23	46.9	1	100.0	23	4.1	0	0.0	1,663	25.1
FFS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	427	75.7	0	0.0	427	6.4
MCO Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	70	12.4	147	100.0	217	3.3

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

**Table D-6—Distribution of Study Members With at Least One Phase II Dental Visit Diagnosis by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2015, With Dental Utilization During Phase II	HAP Waiver Program												Total	
	Day Support		EDCD		ID		IFDDS		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Total	4	100.0	1,905	100.0	232	100.0	25	100.0	162	100.0	51	100.0	2,379	100.0
Age Category														
17 Years and Younger	3	75.0	1,422	74.6	100	43.1	14	56.0	94	58.0	35	68.6	1,668	70.1
18 Through 34 Years	1	25.0	215	11.3	121	52.2	11	44.0	28	17.3	10	19.6	386	16.2
35 Through 64 Years	0	0.0	235	12.3	11	4.7	0	0.0	29	17.9	6	11.8	281	11.8
65 Years and Older	0	0.0	33	1.7	0	0.0	0	0.0	11	6.8	0	0.0	44	1.8
Sex Category														
Female	2	50.0	788	41.4	95	40.9	3	12.0	65	40.1	23	45.1	976	41.0
Male	2	50.0	1,117	58.6	137	59.1	22	88.0	97	59.9	28	54.9	1,403	59.0
Race Category														
White, Non-Hispanic	3	75.0	617	32.4	89	38.4	14	56.0	62	38.3	13	25.5	798	33.5
Black, Non-Hispanic	1	25.0	539	28.3	79	34.1	6	24.0	42	25.9	14	27.5	681	28.6
Asian, Non-Hispanic	0	0.0	52	2.7	11	4.7	0	0.0	3	1.9	3	5.9	69	2.9
Hispanic, Any Race	0	0.0	548	28.8	49	21.1	4	16.0	26	16.1	14	27.5	641	26.9
Other/Unknown	0	0.0	149	7.8	4	1.7	1	4.0	29	17.9	7	13.7	190	8.0
Region														
Central	1	25.0	457	24.0	90	38.8	5	20.0	35	21.6	0	0.0	588	24.7
Charlottesville	0	0.0	175	9.2	17	7.3	3	12.0	15	9.3	0	0.0	210	8.8
Far Southwest	1	25.0	42	2.2	9	3.9	0	0.0	7	4.3	0	0.0	59	2.5
Halifax/Lynchburg	1	25.0	129	6.8	17	7.3	5	20.0	9	5.6	0	0.0	161	6.8
Northern/Winchester	0	0.0	536	28.1	29	12.5	5	20.0	47	29.0	0	0.0	617	25.9
Roanoke/Alleghany	1	25.0	179	9.4	41	17.7	2	8.0	15	9.3	0	0.0	238	10.0
Tidewater	0	0.0	387	20.3	29	12.5	5	20.0	34	21.0	0	0.0	455	19.1
Missing/Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	51	100.0	51	2.1
MCO														
Anthem	0	0.0	793	41.6	79	34.1	6	24.0	9	5.6	0	0.0	887	37.3
Coventry	0	0.0	75	3.9	10	4.3	1	4.0	1	0.6	0	0.0	87	3.7
INTotal	1	25.0	113	5.9	11	4.7	0	0.0	0	0.0	0	0.0	125	5.3
Kaiser Permanente	0	0.0	10	0.5	0	0.0	0	0.0	0	0.0	0	0.0	10	0.4
Optima	1	25.0	422	22.2	52	22.4	6	24.0	7	4.3	0	0.0	488	20.5
VA Premier	2	50.0	492	25.8	80	34.5	12	48.0	5	3.1	0	0.0	591	24.8
FFS	0	0.0	0	0.0	0	0.0	0	0.0	121	74.7	0	0.0	121	5.1
MCO Unknown	0	0.0	0	0.0	0	0.0	0	0.0	19	11.7	51	100.0	70	2.9

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

**Table D-7—Distribution of Study Members With at Least One Phase II ED Visit by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2015, With ED Utilization During Phase II	HAP Waiver Program												Total	
	Day Support		EDCD		ID		IFDDS		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Total	6	100.0	2,854	100.0	265	100.0	11	100.0	307	100.0	87	100.0	3,530	100.0
Age Category														
17 Years and Younger	1	16.7	915	32.1	73	27.5	2	18.2	65	21.2	27	31.0	1,083	30.7
18 Through 34 Years	4	66.7	354	12.4	156	58.9	7	63.6	51	16.6	13	15.0	585	16.6
35 Through 64 Years	1	16.7	1,291	45.2	29	10.9	2	18.2	140	45.6	40	46.0	1,503	42.6
65 Years and Older	0	0.0	294	10.3	7	2.6	0	0.0	51	16.6	7	8.0	359	10.2
Sex Category														
Female	4	66.7	1,682	58.9	110	41.5	2	18.2	154	50.2	44	50.6	1,996	56.5
Male	2	33.3	1,172	41.1	155	58.5	9	81.8	153	49.8	43	49.4	1,534	43.5
Race Category														
White, Non-Hispanic	2	33.3	919	32.2	99	37.4	3	27.3	115	37.5	31	35.6	1,169	33.1
Black, Non-Hispanic	3	50.0	1,131	39.6	102	38.5	5	45.5	113	36.8	26	29.9	1,380	39.1
Asian, Non-Hispanic	0	0.0	81	2.8	10	3.8	1	9.1	5	1.6	7	8.0	104	2.9
Hispanic, Any Race	1	16.7	586	20.5	48	18.1	2	18.2	52	16.9	18	20.7	707	20.0
Other/Unknown	0	0.0	137	4.8	6	2.3	0	0.0	22	7.2	5	5.7	170	4.8
Region														
Central	2	33.3	765	26.8	99	37.4	4	36.4	88	28.7	0	0.0	958	27.1
Charlottesville	0	0.0	196	6.9	8	3.0	1	9.1	24	7.8	0	0.0	229	6.5
Far Southwest	0	0.0	146	5.1	11	4.2	0	0.0	19	6.2	0	0.0	176	5.0
Halifax/Lynchburg	1	16.7	186	6.5	15	5.7	2	18.2	25	8.1	0	0.0	229	6.5
Northern/Winchester	0	0.0	580	20.3	51	19.2	1	9.1	70	22.8	0	0.0	702	19.9
Roanoke/Alleghany	2	33.3	316	11.1	31	11.7	0	0.0	31	10.1	0	0.0	380	10.8
Tidewater	1	16.7	665	23.3	50	18.9	3	27.3	50	16.3	0	0.0	769	21.8
Missing/Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	87	100.0	87	2.5

Demographic Category as of December 1, 2015, With ED Utilization During Phase II	HAP Waiver Program												Total	
	Day Support		EDCD		ID		IFDDS		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
MCO														
Anthem	1	16.7	1,044	36.6	102	38.5	4	36.4	13	4.2	0	0.0	1,164	33.0
Coventry	0	0.0	123	4.3	15	5.7	0	0.0	1	0.3	0	0.0	139	3.9
INTotal	1	16.7	173	6.1	19	7.2	0	0.0	0	0.0	0	0.0	193	5.5
Kaiser Permanente	0	0.0	10	0.4	0	0.0	0	0.0	0	0.0	0	0.0	10	0.3
Optima	1	16.7	726	25.4	61	23.0	4	36.4	10	3.3	0	0.0	802	22.7
VA Premier	3	50.0	778	27.3	68	25.7	3	27.3	20	6.5	0	0.0	872	24.7
FFS	0	0.0	0	0.0	0	0.0	0	0.0	236	76.9	0	0.0	236	6.7
MCO Unknown	0	0.0	0	0.0	0	0.0	0	0.0	27	8.8	87	100.0	114	3.2

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.



## Long-Term Services and Supports Indicator Results by HAP Waiver Program

**Table D-8—Distribution of Study Members With at Least One Phase II Long-Term Care Service Day by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2015, With at Least One Phase II LTC Service Day During Phase II	HAP Waiver Program														Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Total	37	100.0	5,120	100.0	732	100.0	51	100.0	1	100.0	567	100.0	141	100.0	6,649	100.0
Age Category																
17 Years and Younger	4	10.8	2,016	39.4	161	22.0	19	37.3	0	0.0	165	29.1	50	35.5	2,415	36.3
18 Through 34 Years	27	73.0	836	16.3	487	66.5	29	56.9	0	0.0	122	21.5	29	20.6	1,530	23.0
35 Through 64 Years	6	16.2	1,787	34.9	74	10.1	3	5.9	0	0.0	196	34.6	51	36.2	2,117	31.8
65 Years and Older	0	0.0	481	9.4	10	1.4	0	0.0	1	100.0	84	14.8	11	7.8	587	8.8
Sex Category																
Female	16	43.2	2,684	52.4	288	39.3	8	15.7	1	100.0	250	44.1	64	45.4	3,311	49.8
Male	21	56.8	2,436	47.6	444	60.7	43	84.3	0	0.0	317	55.9	77	54.6	3,338	50.2
Race Category																
White, Non-Hispanic	17	45.9	1,755	34.3	292	39.9	26	51.0	0	0.0	226	39.9	43	30.5	2,359	35.5
Black, Non-Hispanic	11	29.7	1,864	36.4	273	37.3	15	29.4	0	0.0	187	33.0	52	36.9	2,402	36.1
Asian, Non-Hispanic	2	5.4	186	3.6	32	4.4	1	2.0	0	0.0	12	2.1	7	5.0	240	3.6
Hispanic, Any Race	7	18.9	983	19.2	119	16.3	7	13.7	1	100.0	74	13.1	27	19.1	1,218	18.3
Other/Unknown	0	0.0	332	6.5	16	2.2	2	3.9	0	0.0	68	12.0	12	8.5	430	6.5
Region																
Central	7	18.9	1,331	26.0	258	35.2	12	23.5	0	0.0	151	26.6	0	0.0	1,759	26.5
Charlottesville	1	2.7	414	8.1	52	7.1	5	9.8	0	0.0	41	7.2	0	0.0	513	7.7
Far Southwest	2	5.4	206	4.0	23	3.1	0	0.0	0	0.0	31	5.5	0	0.0	262	3.9
Halifax/Lynchburg	7	18.9	344	6.7	57	7.8	9	17.6	0	0.0	35	6.2	0	0.0	452	6.8

Demographic Category as of December 1, 2015, With at Least One Phase II LTC Service Day During Phase II	HAP Waiver Program														Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Northern/Winchester	6	16.2	1,190	23.2	122	16.7	5	9.8	0	0.0	143	25.2	0	0.0	1,466	22.0
Roanoke/Alleghany	3	8.1	530	10.4	88	12.0	7	13.7	1	100.0	48	8.5	0	0.0	677	10.2
Tidewater	11	29.7	1,105	21.6	132	18.0	13	25.5	0	0.0	118	20.8	0	0.0	1,379	20.7
Missing/Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	141	100.0	141	2.1
MCO																
Anthem	10	27.0	1,972	38.5	263	35.9	11	21.6	0	0.0	16	2.8	0	0.0	2,272	34.2
Coventry	1	2.7	218	4.3	35	4.8	4	7.8	0	0.0	2	0.4	0	0.0	260	3.9
INTotal	3	8.1	312	6.1	36	4.9	0	0.0	0	0.0	1	0.2	0	0.0	352	5.3
Kaiser Permanente	0	0.0	37	0.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	37	0.6
Optima	12	32.4	1,219	23.8	183	25.0	12	23.5	0	0.0	2	0.4	0	0.0	1,428	21.5
VA Premier	11	29.7	1,362	26.6	215	29.4	24	47.1	1	100.0	15	2.6	0	0.0	1,628	24.5
FFS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	454	80.1	0	0.0	454	6.8
MCO Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	77	13.6	141	100.0	218	3.3

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

## Pharmacy Utilization Indicator Results by HAP Waiver Program

**Table D-9—Distribution of Study Members With Any Prescription Medication During Phase II by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2015, With Any Prescription Medication During Phase II	HAP Waiver Program														Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Total	19	100.0	5,098	100.0	678	100.0	43	100.0	1	100.0	596	100.0	168	100.0	6,603	100.0
Age Category																
17 Years and Younger	3	15.8	1,926	37.8	155	22.9	15	34.9	0	0.0	154	25.8	61	36.3	2,314	35.0
18 Through 34 Years	14	73.7	774	15.2	446	65.8	25	58.1	0	0.0	123	20.6	31	18.5	1,413	21.4
35 Through 64 Years	2	10.5	1,900	37.3	67	9.9	3	7.0	0	0.0	230	38.6	64	38.1	2,266	34.3
65 Years and Older	0	0.0	498	9.8	10	1.5	0	0.0	1	100.0	89	14.9	12	7.1	610	9.2
Sex Category																
Female	12	63.2	2,740	53.7	273	40.3	8	18.6	1	100.0	275	46.1	82	48.8	3,391	51.4
Male	7	36.8	2,358	46.3	405	59.7	35	81.4	0	0.0	321	53.9	86	51.2	3,212	48.6
Race Category																
White, Non-Hispanic	9	47.4	1,776	34.8	269	39.7	22	51.2	0	0.0	233	39.1	62	36.9	2,371	35.9
Black, Non-Hispanic	4	21.1	1,824	35.8	251	37.0	12	27.9	0	0.0	198	33.2	55	32.7	2,344	35.5
Asian, Non-Hispanic	0	0.0	185	3.6	31	4.6	1	2.3	0	0.0	12	2.0	10	6.0	239	3.6
Hispanic, Any Race	6	31.6	1,027	20.2	111	16.4	6	14.0	1	100.0	92	15.4	30	17.9	1,273	19.3
Other/Unknown	0	0.0	286	5.6	16	2.4	2	4.7	0	0.0	61	10.2	11	6.5	376	5.7
Region																
Central	4	21.1	1,363	26.7	242	35.7	12	27.9	0	0.0	166	27.9	0	0.0	1,787	27.1
Charlottesville	0	0.0	411	8.1	49	7.2	4	9.3	0	0.0	41	6.9	0	0.0	505	7.6
Far Southwest	2	10.5	222	4.4	22	3.2	0	0.0	0	0.0	36	6.0	0	0.0	282	4.3
Halifax/Lynchburg	5	26.3	358	7.0	52	7.7	9	20.9	0	0.0	41	6.9	0	0.0	465	7.0

Demographic Category as of December 1, 2015, With Any Prescription Medication During Phase II	HAP Waiver Program														Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Northern/Winchester	3	15.8	1,157	22.7	112	16.5	5	11.6	0	0.0	134	22.5	0	0.0	1,411	21.4
Roanoke/Alleghany	2	10.5	566	11.1	84	12.4	6	14.0	1	100.0	58	9.7	0	0.0	717	10.9
Tidewater	3	15.8	1,021	20.0	117	17.3	7	16.3	0	0.0	120	20.1	0	0.0	1,268	19.2
Missing/Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	168	100.0	168	2.5
MCO																
Anthem	3	15.8	1,917	37.6	240	35.4	8	18.6	0	0.0	26	4.4	0	0.0	2,194	33.2
Coventry	0	0.0	228	4.5	32	4.7	4	9.3	0	0.0	2	0.3	0	0.0	266	4.0
INTotal	2	10.5	299	5.9	32	4.7	0	0.0	0	0.0	2	0.3	0	0.0	335	5.1
Kaiser Permanente	0	0.0	30	0.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	30	0.5
Optima	5	26.3	1,192	23.4	169	24.9	9	20.9	0	0.0	14	2.3	0	0.0	1,389	21.0
VA Premier	9	47.4	1,432	28.1	205	30.2	22	51.2	1	100.0	24	4.0	0	0.0	1,693	25.6
FFS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	447	75.0	0	0.0	447	6.8
MCO Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	81	13.6	168	100.0	249	3.8

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

**Table D-10—Distribution of Study Members With ADD/ADHD Prescription Utilization During Phase II by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2015, With ADD/ADHD Prescriptions During Phase II	HAP Waiver Program												Total	
	Day Support		EDCD		ID		IFDDS		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Total	5	100.0	994	100.0	181	100.0	14	100.0	117	100.0	30	100.0	1,341	100.0
Age Category														
17 Years and Younger	1	20.0	675	67.9	77	42.5	4	28.6	57	48.7	19	63.3	833	62.1
18 Through 34 Years	4	80.0	107	10.8	103	56.9	10	71.4	27	23.1	4	13.3	255	19.0
35 Through 64 Years	0	0.0	186	18.7	1	0.6	0	0.0	26	22.2	6	20.0	219	16.3
65 Years and Older	0	0.0	26	2.6	0	0.0	0	0.0	7	6.0	1	3.3	34	2.5
Sex Category														
Female	3	60.0	375	37.7	51	28.2	2	14.3	39	33.3	10	33.3	480	35.8
Male	2	40.0	619	62.3	130	71.8	12	85.7	78	66.7	20	66.7	861	64.2
Race Category														
White, Non-Hispanic	3	60.0	370	37.2	75	41.4	9	64.3	56	47.9	15	50.0	528	39.4
Black, Non-Hispanic	1	20.0	307	30.9	66	36.5	2	14.3	32	27.4	8	26.7	416	31.0
Asian, Non-Hispanic	0	0.0	9	0.9	4	2.2	0	0.0	1	0.9	0	0.0	14	1.0
Hispanic, Any Race	1	20.0	239	24.0	33	18.2	1	7.1	14	12.0	3	10.0	291	21.7
Other/Unknown	0	0.0	69	6.9	3	1.7	2	14.3	14	12.0	4	13.3	92	6.9
Region														
Central	0	0.0	277	27.9	68	37.6	4	28.6	45	38.5	0	0.0	394	29.4
Charlottesville	0	0.0	79	7.9	10	5.5	1	7.1	8	6.8	0	0.0	98	7.3
Far Southwest	2	40.0	19	1.9	6	3.3	0	0.0	5	4.3	0	0.0	32	2.4
Halifax/Lynchburg	0	0.0	71	7.1	9	5.0	3	21.4	6	5.1	0	0.0	89	6.6
Northern/Winchester	1	20.0	203	20.4	20	11.0	1	7.1	19	16.2	0	0.0	244	18.2
Roanoke/Alleghany	0	0.0	139	14.0	37	20.4	2	14.3	10	8.5	0	0.0	188	14.0
Tidewater	2	40.0	206	20.7	31	17.1	3	21.4	24	20.5	0	0.0	266	19.8
Missing/Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	30	100.0	30	2.2

Demographic Category as of December 1, 2015, With ADD/ADHD Prescriptions During Phase II	HAP Waiver Program												Total	
	Day Support		EDCD		ID		IFDDS		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
MCO														
Anthem	2	40.0	366	36.8	62	34.3	2	14.3	6	5.1	0	0.0	438	32.7
Coventry	0	0.0	35	3.5	6	3.3	1	7.1	1	0.9	0	0.0	43	3.2
INTotal	0	0.0	43	4.3	6	3.3	0	0.0	1	0.9	0	0.0	50	3.7
Kaiser Permanente	0	0.0	4	0.4	0	0.0	0	0.0	0	0.0	0	0.0	4	0.3
Optima	1	20.0	226	22.7	38	21.0	4	28.6	2	1.7	0	0.0	271	20.2
VA Premier	2	40.0	320	32.2	69	38.1	7	50.0	8	6.8	0	0.0	406	30.3
FFS	0	0.0	0	0.0	0	0.0	0	0.0	84	71.8	0	0.0	84	6.3
MCO Unknown	0	0.0	0	0.0	0	0.0	0	0.0	15	12.8	30	100.0	45	3.4

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

**Table D-11—Distribution of Study Members With Antibiotics Prescription Utilization During Phase II by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2015, With Antibiotic Prescriptions During Phase II	HAP Waiver Program												Total	
	Day Support		EDCD		ID		IFDDS		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Total	8	100.0	2,965	100.0	301	100.0	20	100.0	325	100.0	72	100.0	3,691	100.0
Age Category														
17 Years and Younger	2	25.0	1,113	37.5	91	30.2	9	45.0	91	28.0	23	31.9	1,329	36.0
18 Through 34 Years	6	75.0	387	13.1	179	59.5	9	45.0	56	17.2	17	23.6	654	17.7
35 Through 64 Years	0	0.0	1,183	39.9	26	8.6	2	10.0	124	38.2	26	36.1	1,361	36.9
65 Years and Older	0	0.0	282	9.5	5	1.7	0	0.0	54	16.6	6	8.3	347	9.4
Sex Category														
Female	6	75.0	1,699	57.3	125	41.5	4	20.0	153	47.1	37	51.4	2,024	54.8
Male	2	25.0	1,266	42.7	176	58.5	16	80.0	172	52.9	35	48.6	1,667	45.2

Demographic Category as of December 1, 2015, With Antibiotic Prescriptions During Phase II	HAP Waiver Program												Total	
	Day Support		EDCD		ID		IFDDS		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Race Category														
White, Non-Hispanic	5	62.5	1,122	37.8	132	43.9	12	60.0	150	46.2	30	41.7	1,451	39.3
Black, Non-Hispanic	1	12.5	923	31.1	86	28.6	6	30.0	79	24.3	17	23.6	1,112	30.1
Asian, Non-Hispanic	0	0.0	95	3.2	15	5.0	1	5.0	7	2.2	8	11.1	126	3.4
Hispanic, Any Race	2	25.0	658	22.2	60	19.9	1	5.0	63	19.4	11	15.3	795	21.5
Other/Unknown	0	0.0	167	5.6	8	2.7	0	0.0	26	8.0	6	8.3	207	5.6
Region														
Central	3	37.5	819	27.6	106	35.2	5	25.0	88	27.1	0	0.0	1,021	27.7
Charlottesville	0	0.0	200	6.7	21	7.0	3	15.0	22	6.8	0	0.0	246	6.7
Far Southwest	1	12.5	179	6.0	13	4.3	0	0.0	28	8.6	0	0.0	221	6.0
Halifax/Lynchburg	0	0.0	199	6.7	25	8.3	1	5.0	21	6.5	0	0.0	246	6.7
Northern/Winchester	1	12.5	769	25.9	66	21.9	3	15.0	83	25.5	0	0.0	922	25.0
Roanoke/Alleghany	2	25.0	394	13.3	44	14.6	4	20.0	34	10.5	0	0.0	478	13.0
Tidewater	1	12.5	405	13.7	26	8.6	4	20.0	49	15.1	0	0.0	485	13.1
Missing/Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	72	100.0	72	2.0
MCO														
Anthem	1	12.5	1,234	41.6	115	38.2	5	25.0	20	6.2	0	0.0	1,375	37.3
Coventry	0	0.0	139	4.7	17	5.6	1	5.0	2	0.6	0	0.0	159	4.3
INTotal	2	25.0	189	6.4	17	5.6	0	0.0	0	0.0	0	0.0	208	5.6
Kaiser Permanente	0	0.0	17	0.6	0	0.0	0	0.0	0	0.0	0	0.0	17	0.5
Optima	0	0.0	440	14.8	47	15.6	3	15.0	4	1.2	0	0.0	494	13.4
VA Premier	5	62.5	946	31.9	105	34.9	11	55.0	19	5.8	0	0.0	1,086	29.4
FFS	0	0.0	0	0.0	0	0.0	0	0.0	247	76.0	0	0.0	247	6.7
MCO Unknown	0	0.0	0	0.0	0	0.0	0	0.0	33	10.2	72	100.0	105	2.8

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.



**Table D-12—Distribution of Study Members With Antipsychotic Prescription Utilization During Phase II by Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2015, With Antipsychotic Prescriptions During Phase II	HAP Waiver Program														Total	
	Day Support		EDCD		ID		IFDDS		Alzheimer's		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
<b>Total</b>	<b>7</b>	<b>100.0</b>	<b>976</b>	<b>100.0</b>	<b>322</b>	<b>100.0</b>	<b>17</b>	<b>100.0</b>	<b>1</b>	<b>100.0</b>	<b>131</b>	<b>100.0</b>	<b>28</b>	<b>100.0</b>	<b>1,482</b>	<b>100.0</b>
<b>Age Category</b>																
17 Years and Younger	2	28.6	314	32.2	51	15.8	3	17.6	0	0	33	25.2	7	25.0	410	27.7
18 Through 34 Years	5	71.4	162	16.6	233	72.4	13	76.5	0	0	26	19.8	8	28.6	447	30.2
35 Through 64 Years	0	0.0	428	43.9	33	10.2	1	5.9	0	0	53	40.5	13	46.4	528	35.6
65 Years and Older	0	0.0	72	7.4	5	1.6	0	0.0	1	100.0	19	14.5	0	0.0	97	6.5
<b>Sex Category</b>																
Female	4	57.1	515	52.8	111	34.5	3	17.6	1	100.0	53	40.5	8	28.6	695	46.9
Male	3	42.9	461	47.2	211	65.5	14	82.4	0	0.0	78	59.5	20	71.4	787	53.1
<b>Race Category</b>																
White, Non-Hispanic	1	14.3	377	38.6	124	38.5	12	70.6	0	0.0	66	50.4	11	39.3	591	39.9
Black, Non-Hispanic	3	42.9	354	36.3	127	39.4	3	17.6	0	0.0	42	32.1	11	39.3	540	36.4
Asian, Non-Hispanic	0	0.0	17	1.7	12	3.7	0	0.0	0	0.0	3	2.3	0	0.0	32	2.2
Hispanic, Any Race	3	42.9	182	18.6	54	16.8	1	5.9	1	100.0	15	11.5	5	17.9	261	17.6
Other/Unknown	0	0.0	46	4.7	5	1.6	1	5.9	0	0.0	5	3.8	1	3.6	58	3.9
<b>Region</b>																
Central	0	0.0	300	30.7	122	37.9	4	23.5	0	0.0	41	31.3	0	0.0	467	31.5
Charlottesville	0	0.0	77	7.9	14	4.3	1	5.9	0	0.0	14	10.7	0	0.0	106	7.2
Far Southwest	0	0.0	46	4.7	12	3.7	0	0.0	0	0.0	4	3.1	0	0.0	62	4.2
Halifax/Lynchburg	2	28.6	74	7.6	21	6.5	1	5.9	0	0.0	13	9.9	0	0.0	111	7.5
Northern/Winchester	0	0.0	193	19.8	50	15.5	3	17.6	0	0.0	25	19.1	0	0.0	271	18.3
Roanoke/Alleghany	2	28.6	116	11.9	45	14.0	4	23.5	1	100.0	10	7.6	0	0.0	178	12.0
Tidewater	3	42.9	170	17.4	58	18.0	4	23.5	0	0.0	24	18.3	0	0.0	259	17.5
Missing/Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	28	100.0	28	1.9
<b>MCO</b>																
Anthem	1	14.3	364	37.3	121	37.6	4	23.5	0	0.0	12	9.2	0	0.0	502	33.9
Coventry	0	0.0	37	3.8	18	5.6	1	5.9	0	0.0	0	0.0	0	0.0	56	3.8
INTotal	1	14.3	52	5.3	13	4.0	0	0.0	0	0.0	1	0.8	0	0.0	67	4.5
Kaiser Permanente	0	0.0	5	0.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5	0.3
Optima	2	28.6	204	20.9	64	19.9	4	23.5	0	0.0	6	4.6	0	0.0	280	18.9
VA Premier	3	42.9	314	32.2	106	32.9	8	47.1	1	100.0	6	4.6	0	0.0	438	29.6
FFS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	90	68.7	0	0.0	90	6.1
MCO Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	16	12.2	28	100.0	44	3.0

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

**Table D-13—Distribution of Study Members With Opiate Prescription Utilization During Phase II Demographic Category and HAP Waiver Program**

Demographic Category as of December 1, 2015, With Opiate Prescriptions During Phase II	HAP Waiver Program <sup>1</sup>												Total	
	Day Support		EDCD		ID		IFDDS		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Total	1	100.0	1,722	100.0	73	100.0	11	100.0	215	100.0	46	100.0	2,068	100.0
Age Category														
17 Years and Younger	0	0.0	123	7.1	8	11.0	2	18.2	6	2.8	0	0.0	139	6.7
18 Through 34 Years	1	100.0	187	10.9	54	74.0	7	63.6	30	14.0	8	17.4	287	13.9
35 Through 64 Years	0	0.0	1,204	69.9	10	13.7	2	18.2	136	63.3	35	76.1	1,387	67.1
65 Years and Older	0	0.0	208	12.1	1	1.4	0	0.0	43	20.0	3	6.5	255	12.3
Sex Category														
Female	1	100.0	1,183	68.7	31	42.5	4	36.4	125	58.1	27	58.7	1,371	66.3
Male	0	0.0	539	31.3	42	57.5	7	63.6	90	41.9	19	41.3	697	33.7
Race Category														
White, Non-Hispanic	1	100.0	637	37.0	28	38.4	6	54.5	82	38.1	16	34.8	770	37.2
Black, Non-Hispanic	0	0.0	728	42.3	36	49.3	2	18.2	84	39.1	20	43.5	870	42.1
Asian, Non-Hispanic	0	0.0	36	2.1	1	1.4	0	0.0	4	1.9	3	6.5	44	2.1
Hispanic, Any Race	0	0.0	274	15.9	8	11.0	3	27.3	35	16.3	6	13.0	326	15.8
Other/Unknown	0	0.0	47	2.7	0	0.0	0	0.0	10	4.7	1	2.2	58	2.8
Region														
Central	0	0.0	499	29.0	41	56.2	1	9.1	66	30.7	0	0.0	607	29.4
Charlottesville	0	0.0	108	6.3	5	6.8	1	9.1	13	6.0	0	0.0	127	6.1
Far Southwest	1	100.0	121	7.0	3	4.1	0	0.0	19	8.8	0	0.0	144	7.0
Halifax/Lynchburg	0	0.0	121	7.0	2	2.7	3	27.3	23	10.7	0	0.0	149	7.2
Northern/Winchester	0	0.0	263	15.3	8	11.0	1	9.1	39	18.1	0	0.0	311	15.0
Roanoke/Alleghany	0	0.0	253	14.7	8	11.0	3	27.3	22	10.2	0	0.0	286	13.8
Tidewater	0	0.0	357	20.7	6	8.2	2	18.2	33	15.3	0	0.0	398	19.2
Missing/Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	46	100.0	46	2.2
MCO														
Anthem	1	100.0	606	35.2	33	45.2	3	27.3	13	6.0	0	0.0	656	31.7
Coventry	0	0.0	84	4.9	5	6.8	0	0.0	1	0.5	0	0.0	90	4.4
INTotal	0	0.0	83	4.8	5	6.8	0	0.0	1	0.5	0	0.0	89	4.3
Kaiser Permanente	0	0.0	4	0.2	0	0.0	0	0.0	0	0.0	0	0.0	4	0.2
Optima	0	0.0	356	20.7	9	12.3	1	9.1	5	2.3	0	0.0	371	17.9
VA Premier	0	0.0	589	34.2	21	28.8	7	63.6	12	5.6	0	0.0	629	30.4

Demographic Category as of December 1, 2015, With Opiate Prescriptions During Phase II	HAP Waiver Program <sup>1</sup>												Total	
	Day Support		EDCD		ID		IFDDS		No Waiver		No Medicaid			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
FFS	0	0.0	0	0.0	0	0.0	0	0.0	155	72.1	0	0.0	155	7.5
MCO Unknown	0	0.0	0	0.0	0	0.0	0	0.0	28	13.0	46	100.0	74	3.6

Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

<sup>1</sup> No study members in the Alzheimer's waiver program were identified as having an opiate prescription during Phase II.